

**PUBLIC FINANCIAL MANAGEMENT PRACTICES, GOVERNANCE
FRAMEWORK, TECHNOLOGICAL INFRASTRUCTURE AND OWN SOURCE
REVENUE BY SELECTED COUNTY GOVERNMENTS IN KENYA**

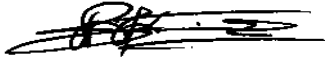
BIWOTT NICHOLAS KIRWA

**A RESEARCH THESIS SUBMITTED TO THE SCHOOL OF MANAGEMENT AND
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AWARD OF DOCTOR OF PHILOSOPHY IN MANAGEMENT AND LEADERSHIP
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DECLARATION

I declare that this thesis is my original work and has not previously in its entirety or in part been presented for a degree or other academic work.

Signature 

Date *4th November 2025.*

Biwott Nicholas Kirwa

DML/19/00144/3/21

This thesis has been submitted for examination with my approval as University Supervisor.

Signature

Date

Prof. Washington Okeyo

Management University of Africa

Signature

Date

Prof. Peter Kithae

Management University of Africa

DEDICATION

This thesis is dedicated to my lovely family, for their support and encouragement ‘to be the best version’ God created me to be. I dedicate it also to our children; Cleon, Cephane and Collins, for their patience and sacrifice. Finally, to the Almighty God for his love and kindness to me over the period.

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ACRONYMS / ABBREVIATIONS

ADP	Annual Development Plan
ANOVA	Analysis of Variance
ATM	Automated Teller Machine
CBEF	County Budget and Economic Forum
CEC	County Executive Committee
CFSP	County Fiscal strategy Paper
CO	Chief Officer
CoK	Constitution of Kenya
CIDP	County Integrated Development Plan
CRA	Commission on Revenue Allocation
GAAP	Generally Accepted Accounting Principles
ICT	Information, Communication and Technology
IFMIS	Integrated Financial Management Systems
IMF	International Monetary Fund
IPSAS	Public Sector Accounting Standards
KARA	The Kenya Alliance of Resident Associations
KMO	Kaiser Meyer Olkin
MCAs	Members of the County Assembly
NPM	New Public Management
OECD	The Organization for Economic Cooperation and Development
OSR	Own Source Revenue
PFMP	Public financial management practices
SARS	Severe Acute Respiratory Syndromes
SME	Small and Medium Enterprises
SPSS	Statistical Package for the Social Sciences
SRC	Salaries and Remuneration Commission
SSA	Sub-Saharan Africa
VAT	Value Added Tax

OPERATIONAL DEFINITION OF TERMS

County Government	Level of devolved government in Kenya, consisting of a Governor, a County Executive Committee, and a County Assembly. It provides services to its residents, manages local resources, and creates county legislation within its area of jurisdiction. This structure was established by the 2010 Constitution to decentralize power and functions from the national government to local entities.
Governance Framework	Principles, rules, and procedures through which a country or organization is governed. It includes policies, laws, regulations, and institutional structures.
Own Source Revenue (OSR)	The process of internally generating funds/revenue, in the forms of taxes, user charges, fees and fines to help county governments to run their local affairs.
Public financial management practices	Strategies and techniques used by governments and public sector organisations to manage resources efficiently and effectively to achieve desired outcomes. These practices encompass the entire lifecycle of public funds, from generating revenue to spending it on public services and programmes.
Technological infrastructure	Underlying network of physical and digital components that enable and support the applications and information management requirements of the business.

ABSTRACT

In Kenya, only 11 out of 47 counties can finance over 10% of their budgets, indicating a heavy reliance on National Government transfers for nearly 90% of their funding. This study aimed to examine the impact of public finance management practices, governance frameworks, and technological infrastructure on the own-source revenue collection by county governments.

The study focused on the effects of public finance management practices on revenue collection, the mediating role of governance frameworks, and the moderating influence of technology. The New Public Management theory served as the anchor theory. Utilizing a positivism research paradigm and a descriptive design, the study analyzed the 11 best-performing counties for revenue generation in the 2022/2023 financial year. A sample of 284 county officials was selected through stratified random sampling, with data collected via structured questionnaires. The findings revealed a strong positive correlation between public finance management practices and increased own-source revenue, emphasizing the role of automated revenue collection in enhancing efficiency and transparency. The governance framework was found to mediate this relationship, while technological advancements improved compliance and revenue generation capabilities. Statistical analysis indicated a moderate positive correlation between public finance management practices and own-source revenue, with project planning accounting for 30.6% of revenue variations. The study confirmed a direct relationship between public finance management practices and revenue generation, underscoring the importance of robust public financial management. Recommendations include developing advanced automated revenue collection systems, such as mobile payment platforms and Integrated Financial Management Systems, to enhance accuracy and transparency. Additionally, comprehensive training programs for financial management officials and strengthening governance frameworks through clear legal regulations are essential for optimizing revenue generation in Kenyan counties.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter discusses the study's background from global, regional, and local perspectives on own-source revenue collection by county governments, public finance management practices, governance framework and technological infrastructure. It also includes a problem description, general, specific study objectives, and justification of the study, study scope, limits, and delimitation.

1.1 Background of the study

In many countries around the world, governments have been undertaking reforms and deepening their systems of governance and devolving responsibilities and power over resources to lower levels at an accelerated rate (Mbau Elias, 2019). Proponents of the move from the central to local governments have justified this by arguing that the centralized system has failed to deliver growth. In order to improve the performance of the county, it is necessary to use both the resources that have been devolved and the resources that have been mobilised locally. This will help achieve allocative efficiency, as stated in the CoK (2010) report. In the context of Kenya, a county government, own-source revenue refers to the income mobilized locally by the county governments as authorized by the national government and by an Act of Parliament (The National Treasury, 2021). Worldwide, the devolved systems of government enjoy numerous benefits by mobilizing their local source revenues. One outstanding benefit is financial autonomy which is very significant to the county government's sustainability. Other benefits include the capacity to accommodate new growing spending requirements of a county government in areas such as legislation, political manifestos, and meeting demands of regularly changing economic cycle in the county government (Odanga, 2019).

Globally, mobilization of own resource revenue by devolved governments has been enhanced by proper public financial management practices and the adoption of technology. For example, several developed countries, the United States of America, Chicago, Italy, Spain, Australia, and India, have expanded their revenue collection by deploying technology in their processes (CEICTM, 2018; Odanga, 2019). However, weaknesses in the mobilization of own-source revenue are also witnessed in some developed countries. De Paepe et al. (2017) presented case

studies and revenue reports of Asian Countries, including China, Bangladesh, Pakistan, India, Nepal and Indonesia. The report shows that South Asian countries were performing poorly in domestic revenue mobilization compared to the peer countries except for China. There was a moderately slight increase in the revenue mobilized even with the enactment of tax reforms. One precise observation from Asian countries was that revenue mobilization had improved through the formation and execution of anti-corruption measures, exploring creative fund mobilization mechanisms, and capacity building and championing aggressive awareness programs for taxpayers (De Paepe, Hart & Long, 2017; Musleh, 2017). The decentralization of the central government roles in India brought about the outstanding contribution by being the engines of growth and attainment of social objectives like poverty alleviation, increased employment rate, reduction of economic inequalities and sustainable development (Committee of Experts on International Cooperation in Tax Matters, 2018).

Increasing urbanization and expenditure-driven devolution are placing greater financial strain on local governments in Sub-Saharan Africa (SSA). Specifically, local governments face increased demand and responsibility for urban services and infrastructure, but limited options to pay for greater capacity to meet that demand. Consequently, the local governments tend to be heavily dependent on fund transfers from national governments and donors (Inam, 2020). Most countries in Africa struggle to meet their revenue collection targets due to weak systems and structures (ACR, 2016). For example, the mobilization of local government revenue in countries like Rwanda and South Africa was found to be hampered by poorly defined tax bases, the absence of tax handles, inadequate local government tax enforcement mechanisms, discretionary transfer system, perceived corruption, poor administration and limited accountability (Wawire, 2020; IMF, 2019). Studies further revealed that own-source revenue mobilization in East African countries was impeded by the general absence of voluntary compliance among taxpayers, weak relationships between tax policy and national development objectives, and difficulties with tax administration (Wawire, 2020; IMF, 2019).

Regionally, the Government of Tanzania in its efforts of providing better services to the people as well as fostering its citizens Social Economic Development; had established Local Government Authorities (LGAs) which are the Governments closer to the people (Mbegu & Komba, 2017). Also the so called Decentralization by Devolution that simply means devoting power to the local community both political, financial and social power was established

(Mbegu & Komba, 2017). Local Government Authorities Own Source Revenue is a very vital factor for LGAs' financial autonomy. LGAs' revenue mobilization plays an important role in enhancing their Own Source Revenue. The Local Government Authorities for many years have been facing problems of not performing well in revenues collected from their own sources while the cost of service delivery and infrastructure has been increasing year after year (Mbegu & Komba, 2017). Moreover, Kijalo (2013) found that most councils have huge gaps between reported and projected revenues this is due to: poor administrative capacity to assess the revenue base; poor administrative capacity to enforce the taxes; explicit and intentional tax evasion and resistance from taxpayers; corruption, including embezzlement of revenues; external pressure on the local finance department to provide optimistic projections; and political pressure on the local tax administration to relax on revenue collection. The weaknesses of the Tanzanian local government revenue system is also one of the factors contributing to low performance of Own Source Revenue attributed by low-yielding taxes assigned to Local Government authorities which are among the least popular and politically acceptable revenue sources; the fragmentation of the local tax system which causes horizontal inequities and inefficiency (Kijalo, 2013).

In Kenya, the County Government Act 2012 and the Public Finance Management Act 2012 guide local resource mobilization. Furthermore, the National policy on own-source revenue also guides revenue administration at the county level (Un-Habitat, 2014). According to the Un-Habitat, the county government's own-source revenue accounts for 14 per cent of total receipts. However, the policy described this contribution as inadequate, hence the over-reliance on equity share from the national government (Ngicuru, 2017; Githinji et al., 2018). Thus, the Constitution of Kenya, 2010 (in conjunction with the 2012 Public Finance Management Act, the County Government Act of 2012 and the 2011 Urban Areas and Cities Act 2011), ushered in a decentralized system of governance comprising of a National Government and forty-seven (47) County Governments, replacing a centralized system of governance. The system features significant political and administrative devolution, in addition to fiscal decentralization in which County Governments are granted responsibility for raising revenue as well as budgeting for devolved functions. Local and regional governments play a crucial role in both public finance and citizens' welfare (Constitution of Kenya, 2010).

1.1.1 Public Financial Management Practices

According to Lawson (2015), the term Public financial management practices (PFMPs) are the strategies and techniques used by governments and public sector organisations to manage resources efficiently and effectively to achieve desired outcomes. The practices include resource creation, resource allocation, and spending and resource utilisation. CIPFA (2009) defines 'Public financial management practices (PFMP)' as the system that directs, controls, and influences the financial elements of public services' operations in order to promote the achievement of the sector's objectives. The term "public" in PFMP refers to the unique characteristics of financial management practices in the public sector. These include the increased emphasis on transparency and accountability, limited resources due to demand levels that are not primarily influenced by price, and the influence of the political environment. Values drive the process of resolving conflicting resource needs rather than being a purely technological solution. Additionally, there exists a distinct set of procedures that are exclusive to the public sector, such as tax administration. The administration of finances in the public sector is fundamentally distinct from that in the private sector, despite the existence of some shared professional standards and procedures (CIPFA, 2009).

The primary objective of Public financial management practices is to maximise profitability for investors and company owners, whereas the main objective of public financial management is to efficiently provide services to people and optimise the use of public resources. Therefore, public financial management strategies focus on establishing overall fiscal discipline, efficient allocation of resources, fairness, redistribution of wealth, and obtaining value for money in an open and responsible way. Therefore, it is crucial to comprehend how different PFM duties align with a comprehensive set of laws and regulations that oversee the administration of public resources, and the final objectives that these functions aim to accomplish together (Adekoya, 2023). Muhammed Ahamed (2018) conducted a critical analysis of Public Financial Management Practices in Ethiopia and Tanzania. The study showed that both the Ethiopian and Tanzanian reforms have been successful. Both pathways were selective and focused on systematically addressing key weaknesses in financial control. The first order task was to instill effective control while the second order task was to improve the efficiency of control. Both involved extensive customization. In comparing the two countries' public financial management reform, actions of Ethiopian reform have been the following: evolve existing systems, hybrid approach, focus on legal framework, budget,

accounts, reporting, automation replicates, strong manual controls over commitments, procurement, disbursement and sequencing. On the other hand, the Tanzanian PFM was based on reform actions driven by installing new Information Technology, procedures and discipline.

In the research study by Sergejeff, Karaki, Ronceray, and Apiko, (2024), on assessment of the public financial management practices in Malawi from 2011 to 2021 the following inquiries were addressed: (i) In what locations and for what reasons do Public Finance Management (PFM) changes yield outcomes? (ii) In what location and manner can financial assistance from donors most efficiently help to achieve success in public financial management (PFM) reform efforts? The primary finding indicated that substantial reform outcomes were achieved throughout the timeframe, indicating a notable transformation in the ability to prepare budgets, execute budgets, and conduct audits. The majority of the implemented outcomes throughout that time period received external assistance. Nevertheless, the impact of the political shift in 2004 and its role in propelling internal changes are noteworthy. Looking back, one of the most notable accomplishments of the Malawi government's reforms is the successful implementation of an Integrated Financial Management Information System (IFMIS). This achievement has played a crucial role in facilitating a range of subsequent changes. However, this capability was attained with little reliance on foreign assistance. The study evaluated public financial management practices with dimensions such as Financial Planning Practices, Internal Control Practices, Public Finance Procurement Practices and Revenue Mobilisation Practices, as well as their impact on county governments' Own Source Revenue in Kenya.

1.1.2 Governance Framework

A governance framework refers to a structured set of principles, processes, and tools that guide how the government operates and manages its finances. It acts as a roadmap for achieving efficient and transparent fiscal management, ultimately leading to increased OSRC.

The governance framework provides that supportive environment. It establishes the rules, principles, and processes that guide how PFM practices are implemented and how resources are managed. This fosters trust, transparency, and accountability which are essential ingredients for successful revenue collection. A strong governance framework mediates the effectiveness of PFM practices. A strong framework amplifies positive effects by providing clear guidelines and accountability mechanisms to ensure PFM practices like budgeting and

financial reporting translate into improved revenue collection. A weak framework hinders impact through lack of transparency or accountability which can undermine even well-designed PFM practices, limiting their impact on OSRC. Therefore, a robust governance framework acts as a bridge, creating the necessary conditions for PFM practices to flourish and ultimately translating into increased OSRC for Kenyan county governments. It empowers officials, builds trust with citizens, and addresses unique challenges, paving the way for sustainable financial management and development.

A governance framework is defined as a control that establishes proper oversight over all receipts and receivables and helps ensure sound financial management practices (OECD, 2021). According to international monetary fund (IMF), governance framework such as revenue policy defines the presence of one or more of the core building blocks of any sound tax system, coherence with overall economic objectives, transparent tax policy-making process and simple tax designs that are aligned with administrative capacity (IMF, 2021). A governance framework is a statutory principle that outlines proper controls for use in budgeting and forecasting, that is, to ensure there is good and proper budgeting strategy (OECD, 2021). The National Treasury (2017) defines a revenue policy as a financial instrument charged with the responsibility of mobilization of tax revenue and financial/revenue/budgetary oversight as regards mobilization and management of Government revenue. OECD and IMF indicates that the revenue and tax policy strikes a balance between securing the revenues needed by governments to finance their social and economic programmes and the need for a tax system that promotes innovation, productivity, and inclusive and sustainable economic growth (IMF, 2021).

Since governance framework has been strongly linked to tax revenue generation and management, the current study adopted the definition by The National Treasury (2017), that it is a Policy, Legal and Institutional framework charged with the responsibility of mobilization of tax revenue and financial, revenue and budgetary oversight as regards mobilization and management of Government revenue. In Kenya, the governance framework has helped in addressing the concerns of how each county can optimize its Own Source Revenue (OSR) within the existing rules of Public Finance Management (KARA, 2012). The governance framework has various significance including, the strengthening of legal and institutional frameworks for County OSR, identification of opportunities for optimizing Counties' OSR

potential: clarifying of assignment of revenue-raising powers between the two levels of Government and among Counties and improving Counties' capacities for revenue collection and administration. That is, the governance framework proposes a standardized institutional, policy and legal framework's OSR-raising measures and enforcement that would apply to all County Governments. The Policy also proposes measures to broaden the Counties' revenue bases and enhance revenue administrative capacity (The National Treasury, 2017).

In this study the governance framework encompassed three dimensions, the legal, policy and institutional framework for own-source revenue collection for county governments in Kenya. Each dimension had several constructs, for the legal framework dimension, the constructs include the Constitution of Kenya 2010, the County Governments Act 2012, the Public Finance Management Act 2012, and sector-specific laws. The Policy framework dimension include the National Policy to Support Enhancement of County Governments' Own-Source Revenue, County Revenue Policies, and sector-specific policies constructs. The Governance framework dimensions adopted by this study include the following constructs, Constitution of Kenya 2010, Public Finance Management Act 2012, Public Procurement and Asset Disposal Act 2015 and International Public Sector Accounting Standards (IPSAS). The governance framework mediates the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

1.1.3 Technological Infrastructure

Technological infrastructure refers to the foundational network of physical and digital elements that facilitate the operation of technology. The underground infrastructure that sustains our digital world ensures connectivity, information dissemination, and continuous advancement. The technological infrastructure's components include physical elements such as data centres, servers, cables, towers, and devices, as well as digital components including software, platforms, operating systems, and applications. The primary purpose of technological infrastructure is to provide connectivity, enabling communication across long distances via mediums such as the internet and telephone conversations. Secondly, there are processes that include the storage and analysis of data, such as social media and research. Thirdly, automation that effectively manage tasks, such as those seen in smart homes and industries, Fourth, Innovation provides a forum for the development of innovative technologies. Understanding and recognising the significance of technical infrastructure is essential for effectively

navigating the current and future technological environment. Technical infrastructure serves as the unseen force that drives our digital world.

The COVID-19 pandemic had a substantial impact on revenue collection in Europe, particularly for nations in the euro zone. Tax revenues for most EU member states saw a large decline in 2021 compared to 2020. The European Union proposed the use of automated systems for revenue collection as a means to enhance and stabilise the process of tax revenue collection (Ėibulcā, 2022). Throughout India, a study conducted by Sidhu, Jain, Shukla, Patil, and Sawant-Patil (2018) showed that tax collection throughout the extensive road network was inefficient and ineffective when relying on old human methods. In Nigeria, the use of electronic tax registration, tax identification, electronic filing of returns, and electronic payments has led to a considerable improvement in revenue performance. The overall impact of digitization on revenue performance was good (Yusuf, 2022). Chilunjika (2018) demonstrated that online platforms have an impact on the adherence of small taxpayers in Zimbabwe when it comes to registering, submitting, and paying taxes. Therefore, the study strongly advocated for the use of automation in order to enhance performance levels.

Automation plays a crucial role in increasing income by improving efficiency and preventing leakages. According to data from the Controller of Budget and CRA (2022), most counties use fragmented ICT systems for revenue collection and administration, such as LAIFOMS and IFMIS. Without integration, they were unable to develop standardised reports for monitoring and supervision. County governments for example Nairobi, Kisumu, Mombasa, Nakuru and Machakos may be leading the way in automation and electronic payment systems. In early 2016, the media reported that 31% of payments for services, including land rates, SBP, parking fees, and market rates, were made using the Jambo Pay platform by Nairobi County government. By the end of 2016, this is anticipated to have reached 50% or higher. Nairobi is presently developing an electronic platform for building permits (e-CP). Despite the improvement in automation, the revenue collection system remained incompletely connected. System fragmentation may result in income being utilised at the source, as reported by the Controller of Budget, and is often vulnerable to leakages.

A study by Kirimi (2023) demonstrates that the implementation of an online receipt system, online payment systems, and an online response process has led to a substantial improvement

in the performance of Own Source Revenue. This has resulted in decreased waiting times at the revenue collection offices and has streamlined the process of meeting regulatory requirements, making it more efficient and expedient. Furthermore, it has facilitated county governments in expanding their sources of tax revenue and has streamlined the process of tracking and collecting payments, resulting in increased efficiency and reduced costs for the county government. In this study, the technological infrastructure dimensions include Mobile Payments System, Online Response System, Integrated Financial Management Information System and Automation of revenue collection.

1.1.4 Own Source Revenue

Own Source Revenue (OSR) has been defined as the process of generating local revenue by and for the county governments given their expanding budgetary and service delivery needs (Qanchora, 2021). These revenues are at the disposal of local government and include property tax, user charges, fees and fines. Inam (2020) defines OSR as the money created by governments internally to support their own growth and sustainability. Own source income refers to all forms of revenue that are created and managed at the local level, within the jurisdiction of local self-government entities, in accordance with the relevant laws (IMF, 2021). Therefore, in this study, OSR refers to the process of generating cash or income domestically, such as via taxes, user charges, fees, and penalties, to support the functioning of county governments in managing their local matters. Self-generated income has enabled several authorities in sub-Saharan Africa (SSA) to maximise their tax earnings (De Mooij et al., 2020).

Enhancing the Own Source Revenue (OSR) not only boosts the total income for a county government but also enhances the financial independence for the county governments and enables them to more effectively handle their public finances in a way that aligns with their own economies (IMF, 2018). County-owned resource mobilisation empowers counties to exert authority over their development priorities and enhances the opportunity for county authorities to be held politically and administratively accountable to their voters (Abdille, 2022). Most countries in Africa struggle to meet their revenue collection targets due to weak systems and structures (ACR, 2016). For example, the mobilization of local government revenue in countries like Rwanda and South Africa was found to be hampered by poorly

defined tax bases, the absence of tax handles, inadequate local government tax enforcement mechanisms, discretionary transfer system, perceived corruption, poor administration and limited accountability (Wawire, 2020; IMF, 2019). Studies further revealed that own-source revenue mobilization in East African countries was impeded by the general absence of voluntary compliance among taxpayers, weak relationships between tax policy and national development objectives, and difficulties with tax administration (Wawire, 2020; IMF, 2019).

In Kenya, Own Source Revenue has contributed to thirteen percent (13%) of the county's revenue in the first three years of devolution while transfers from the national government contributed to over eighty-four percent (84%) (Development Initiative, 2018). County Own Source Revenue Report (2019) indicated that only 11 out of forty-seven (47) counties can finance more than 10% of their overall budget which implies that most of the county governments finance close to 90% of their budgets through National Government transfers to county governments (CRA, 2022). These are indications that the majority of Counties lack principal legal frameworks to support revenue collection and management (Kenya National Treasury, 2017). The County Government of Kenya Act 2012 and the Public Finance Management Act 2012 guide local resource mobilization. Furthermore, the National policy on own-source revenue also guides revenue administration at the county level (Un-Habitat, 2014).

Therefore, the current study examined the effect of public financial management practices, governance Framework and technological infrastructure on Own Source Revenue by county governments in Kenya. The dimensions adopted for Own Source Revenue were Quantity and Growth which were measured by, Growth rate of OSR and Share of OSR in total revenue. The second dimension for OSR was Composition and Diversification which was measured by Distribution of OSR across different sources and Number of active OSR sources. The third dimension for OSR was Efficiency and Effectiveness which was measured by Cost of OSR collection, Timeliness of collection, Compliance rate and Audit detection rate. Audit detection rate is "the proportion of non-compliance, errors, or leakages uncovered by an audit within the own source revenue (OSR) process, relative to what was examined, that is how often audits detect problems." Finally the fourth dimension for OSR was Performance and Sustainability which was measured by Budget execution rate for OSR, Predictability of OSR revenues and Citizen satisfaction with OSR administration.

1.1.5 County Governments of Kenya

County governments are required to efficiently collect compulsory taxes from the public in order to provide critical services to their citizens. Furthermore, the budgetary demands of the county governments place an excessive load on the national government, ultimately undermining the national economy (Okeyo, 2023). County governments were created as constitutional entities through the 2010 Constitution of Kenya, which was promulgated on August 27, 2010 (Constitution of Kenya, 2010). The Constitution established 47 counties as the new units of devolved government, replacing the previous provincial system ("Counties of Kenya," 2025). These counties are geographical units created specifically by the 2010 Constitution as outlined in Chapter Eleven on devolved government and the Fourth Schedule (Constitution of Kenya, 2010; County Governments Act, 2012).

The actual establishment of functioning county governments occurred after the general elections in March 2013, when the first governors, deputy governors, and county assembly members were elected and took office (Independent Electoral and Boundaries Commission IEBC, 2013; "Counties of Kenya," 2025). As to the Government of Kenya Report (2019), county governments in Kenya have been established in accordance with the provisions of County Governments Act No. 17 of 2012. The Act mandates that the county government assume responsibility for any assigned task in accordance with the Constitution or an Act of Parliament. The Act specifies that county governments are responsible for any additional roles delegated to them by the national government, in addition to their executive functions and the functions outlined in Article 186 of the Constitution (La Foy, 2020).

Kenya's counties generate revenue from two primary sources: property taxes and entertainment taxes, as outlined in Article 209 of the constitution. These sources include parking fees and costs for single company licenses. Revenues are crucial for the functioning of the county's infrastructure and service delivery. However, a significant proportion of counties in Kenya collect less than 50% of their yearly potential revenue, leading to narrowing public finance and deteriorating Own Source Revenue (OSR). This is due to factors such as lack of automatic transaction mechanisms, poor management, corruption, and unenforced revenue enhancement legislation. Despite presidential instructions, there is no solid national strategy to strengthen the County government's OSR, and there is currently no solid or enforced national strategy to address these issues (The National Treasury & Planning, 2022).

Article 202 of the constitution of Kenya, provides that revenue raised nationally shall be shared equitably among the national government and the county governments. Further, Article 203 of the Constitution stipulates that for every financial year, the equitable share of the revenue raised nationally that is allocated to county governments shall not be less than 15% of all revenue collected by the national government and that the amount shall be calculated on the basis of the most recent audited accounts of revenue received, as approved by the national assembly. Each county government's equitable share of revenue raised nationally, is determined yearly through the county allocation of revenue act (CARA). The revenue sharing formula is developed by the commission on revenue allocation (CRA) and approved by the parliament in accordance with Article 217 of the constitution. The CARA for the FY 2022/23 allocated county governments' equitable share of Kshs 370 Billion, which was the same as the CARA allocation in FY 2021/2022. The county governments are mandated to generate Own Source Revenue Collections from property rates, entertainment taxes, levies, user fees and licenses and any other taxes that may be authorised to impose within the relevant legislation. County Own Source Revenue increased from Kshs 32.8 Billion of FY 2021/22 to Kshs 36.9 Billion in FY 2022/23 (12%).

1.2 Statement of the Problem

Article 203 of the Constitution of Kenya mandates that at least 15% of nationally collected revenue be allocated to county governments each financial year, this allocation is intended only to supplement and not replace the revenue generated by counties themselves (Kenya Law Reform Commission, 2025; Commission on Revenue Allocation, 2023). In practice, however, the majority of Kenyan counties are unable to effectively generate sufficient Own Source Revenue (OSR) to finance their budgetary needs (Controller of Budget, 2024). Most counties collect less than 50% of their projected annual revenue potential, resulting in a heavy reliance on national government transfers to fund critical county functions such as infrastructure development and service delivery (Controller of Budget, 2024; KIPPRA, 2024). According to the Commission on Revenue Allocation (2023), only 11 out of 47 counties are able to finance more than 10% of their total budgets from OSR, meaning that nearly 90% of county budgets are supported by transfers from the national government (Commission on Revenue Allocation, 2023; World Bank, 2024). County Own Source Revenue stood at 8% from own sources such as fees, licenses, levies, cess, business permits and property income during FY 2022/23

compared with 9% of total receipts in FY 2021/22 (CRA, 2023). This overdependence on external funding not only narrows the fiscal space available to counties but also raises concerns about the sustainability of county finances and their ability to effectively deliver public services such as health care, water, sanitation, education, and agricultural extension services remaining dismal (Muthomi, 2024; KIPPRA, 2024).

The 2022–2023 report from the National Treasury identifies various obstacles to generating revenue within Kenyan counties. Some of these problems are; unclear ways to predict revenue, old valuation rolls, bad structures for managing revenue, interference from political groups, the lack of tariff and pricing policies, and not enough resources for the public to be involved in legislative processes (National Treasury & Planning, 2024). Therefore, this raises sustainability and service-delivery risks and suggests weaknesses in public financial management practices, technological infrastructure, and governance implementation. The study investigates how PFM practices affect OSR, and the roles of technology and the governance framework in strengthening that relationship, to inform strategies for closing the county-specific OSR potential gap.

The county government system in Kenya faces challenges due to a lack of empirical studies to address these issues and provide general recommendations. Existing studies presents conceptual, contextual, and methodological gaps that require attention. On the contextual gap, Sege (2020) focused on Addis Ababa's Sub Cities; Jepkoech (2021) on Nandi's County Government; Masawa (2019) on Siaya County; Mutua and Wamalwa (2017) on Nairobi City County; and Sechero and Otinga (2020) on Busia County Government. Odanga (2019) and Tsumba (2020) concentrated on county revenue diversification, focusing on own-source revenues. Conceptually, other studies investigated fewer variables or variables that were different from those that this study intends to focus on. Different revenue streams and economic conditions limit the scope and generalizability of other studies on OSR collection in counties.

Tsumba (2020) focused on internal controls, staff skills, and technology as indicators of OSR, but failed to emphasize the importance of county revenue policy. Qanchora (2021) focused on institutional-based strategies for enhancing OSR in Isiolo County, while Alavuotunki et al. (2019) assessed the impact of value-added tax on inequality and government revenues but failed to consider revenue mobilization. Masawa (2019) only examined socioeconomic factors affecting revenue collection in Siaya County. These studies lack strong emphasis on public

finance management practices, technological infrastructure, and governance frameworks in OSR collection. On the methodological gap Wangui et al. (2021), Musa (2020), Mwitwa et al. (2018), Owidhi (2018), Karimi et al. (2017), and Kiema (2017) only used qualitative data to derive their conclusions. These studies have concentrated on particular counties or sectors, which may not accurately reflect the broader context of Kenya. Therefore, addressing this methodological gap by broadening the sample size and diversity would enhance the generalizability of the findings. The current study is valuable for examining the effect of public finance management techniques, technical infrastructure, and governance frameworks on the own source revenue by county governments in Kenya through quantitative data analysis.

1.3 General Objective of the study

The primary aim of this study was to investigate the direct effect of public financial management practices on the Own Source Revenue of county governments in Kenya. Additionally, it explored the mediating role of technological infrastructure and the governance framework as a moderating factor in this relationship.

1.3.1 Specific Objectives of the study

The study was guided by the following specific objectives:

- i. To assess the influence of public financial management practices and own-source revenue in selected county governments in Kenya.
- ii. To establish the mediating effect of governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.
- iii. To assess the moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.
- iv. To examine the moderated mediation effect of technological infrastructure and governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

1.4 Justification of the study

This study provides county executives and managers with evidence-based guidance on which public financial management techniques are most strongly associated with higher own-source

revenue, enabling them to prioritize and scale what works. By benchmarking efficient methods already used in some counties, it offers practical models others can adopt or adapt, accelerating learning and reducing trial-and-error. The findings also strengthen accountability and transparency by clarifying performance drivers and metrics, empowering practitioners to own results and improve oversight. Finally, the evidence informs smarter resource allocation such as investments in controls, staffing, and automation leading to sustained gains in revenue collection and, ultimately, better-funded public services.

This study offers clear policy justification by benchmarking the revenue strategies of eleven high-performing counties and distilling replicable lessons for scale-up across the country, identifying which financial management techniques, technological tools, and governance structures reliably raise own-source revenue. Equally, it diagnoses system gaps outdated IT infrastructure, opaque budgeting, and weak enforcement that warrant targeted policy interventions to upgrade digital systems, mandate transparency, and professionalize compliance. By flagging deficiencies in tax collection laws and anti-corruption safeguards, the findings provide an evidence base for legislative amendments and stronger oversight frameworks. Together, these insights enable policymakers to set standards, prioritize investments, and enact reforms that are ethical, data-driven, and likely to deliver sustained gains in county revenue mobilization.

Academically, this study fills a clear gap by empirically unpacking how public financial management practices interact with technological infrastructure and the governance framework to shape own-source revenue within a devolved, Global South context often overlooked in fiscal decentralization research. By specifying governance compliance (Constitution of Kenya 2010, PFM Act 2012, PPADA 2015) as a mediating mechanism and technology as a moderating force, it refines and extends resource dependency theory and technological determinism to public-sector settings, clarifying the pathways legality, transparency, enforcement, and data quality through which managerial practices translate into revenue outcomes. It also contributes replicable measurement instruments (indices of PFM; financial planning, internal control, public finance procurement, and revenue mobilisation) and a testable model that can inform comparative studies, pedagogy, and future research on revenue mobilization in decentralized environments across developing countries.

1.5 Scope of the study

The study was conducted between July and November 2024 in eleven Kenyan counties Nairobi, Mombasa, Kisumu, Kiambu, Nakuru, Narok, Machakos, Kakamega, Laikipia, Uasin Gishu, and Meru using county governments as the unit of analysis. It examined the relationship between public financial management (PFM) practices and own-source revenue (OSR), and assessed the roles of technological infrastructure and the governance framework in shaping that relationship; national transfers and conditional grants were outside the scope.

1.6 Limitations of the study

The study had limitations due to its sample size and location, as it only focused on eleven counties listed as the top ones in the 2022/2023 Office of the Controller of Budget Report for their highest local revenue collection. Other parameters used to rank counties include revenue analysis, own revenue, funds released to counties, and expenditure analysis. The parameter of 'Own Source Revenue Collection collected' was chosen as revenue is a key component of public finance management and service delivery.

The local literature on county government in Kenya was insufficient, especially regarding their revenue sources. To address this, comparisons between the national government and other decentralized units in the region were made. Obtaining data from county officials was challenging due to concerns about confidentiality and potential unauthorized scrutiny. The researcher assured them that the collected data was to be used exclusively for academic purposes.

1.7 Delimitations of the study

In this study, a primary delimitation was its exclusive concentration on the 11 county governments in Kenya, which enabled an in-depth exploration of localized public finance dynamics but precluded broader applicability to other nations or alternative governmental tiers within Kenya, such as national or municipal levels. A secondary delimitation involved narrowing the lens to a singular facet of public finance management namely, revenue collection practices allowing for targeted analysis and methodological precision, yet inherently restricting insights into interconnected areas like budgeting, expenditure tracking, or auditing, thereby emphasizing depth over comprehensive breadth in understanding fiscal governance.

1.8 Chapter Summary

This chapter presented the background information about the concepts of the study. That is, about the public financial management practices, technological infrastructure, governance framework and Own Source Revenue by county governments in Kenya. The background of the study discusses the basic concepts of the study variables, that is the public financial management practices, technological infrastructure governance framework and Own Source Revenue by county governments. This has been done from a global to local perspective. The statement of the problem goes ahead to stipulate the problems of revenue generation by the Kenyan County Governments and give the research gaps that warrant the study. The justification of the study highlighted the importance of the study to theory, practice and to policy. Finally the chapter presents the scope, the limitation and delimitations of the study which give the limits and the boundary covered by the study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter captures theoretical and empirical review, knowledge gaps and conceptual framework on public management practices, county revenue policy and public participation on Own Source Revenue by county governments in Kenya. The purpose of the literature evaluation is to justify the suggested study. This segment examines previously existing publications relating to the investigation hypothesis in order to evaluate it, find inadequacies in the knowledge, and motivate planned investigation. Lastly, a conceptual model is built predicated on a review of current studies to illustrate the link flowchart.

2.1 Theoretical Literature Review

The study was based on four theories: New Public Management (NPM), Institutional theory, Technology Acceptance Model (TAM) and Public Choice Theory. The study was anchored on New Public Management (NPM), is an approach in public administration that aims to improve efficiency and effectiveness in modern bureaucracies. Institutional theory, developed by William Richard Scott, focuses on the governance framework and its cultural-cognitive and regulative elements. The regulatory pillar emphasizes the use of rules, laws, and sanctions as enforcement mechanisms. The TAM, developed by Fred Davis, Bagozzi, and Warshaw in 1989, helps model how people come to admit and utilize new technologies. TAM is often divided into internal and external variables, with internal variables such as perceived ease, usefulness, behavioral intention, and actual use derived from existing models and external variables influenced by these internal variables.

2.1.1 The New Public Management (NPM) Theory

New Public Management (NPM) Theory was advanced by Christopher Hood (1991). The Theory presents a set of administrative policies which dominated the civil service reform agenda in many Organisations for Economic Co-operation and Development (OECD), countries. This term was first introduced by academics in the UK and Australia to describe the approach developed during the 1980s, as part of an effort to make public services more straight forward and to improve its efficiency by using a private sector management model. New Public Management (NPM) is generally seen as an approach in public administration that applies knowledge and experience gained in the world of management and other disciplines to improve

the efficiency and effectiveness of public service performance in modern bureaucracies (Indahsari & Raharja, 2020).

The New Public Management (NPM) Theory postulates seven principles to govern the NPM approach to organisational management. These include adoption of private sector-style of management practices which is business-like, development of a strategic plan with clear outline of the vision, strategic objectives and activities, formulation of a strong policy framework to guide the implementation of the strategy, development of a strong monitoring and control system to ensure effective implementation of the strategy, establishment of proper performance management system to facilitate effective measurement of performance results against the predetermined outcomes, a shift from a centralized system of governance to a decentralized structure of governance which will ensure increased flexibility and eliminate bureaucratic bottlenecks, and an emphasis on performance-based assessment of outsourced goods and services exercise greater fiscal discipline on the use of public resources to effects and efficiency in providing public service to the citizens (Indahsari & Raharja, 2020).

The theory suggests that county governments should implement reforms in various aspects, including public financial management practices, to enhance their Own Source Revenue collection and management. These reforms can include adopting technology, implementing new international accounting standards, and implementing accounting and reporting reforms. These changes can improve service delivery to citizens and enhance the performance of county governments. By analyzing these interactions, county governments can better understand their performance as part of the New Public Management (NPM) approach. The NPM Theory suggests that the public sector must provide value for money to citizens, and thus, reforming public services through NPM tools is necessary. Public finance management (PFM) reform strategies are believed to improve service delivery. This study uses the NPM Theory to examine how PFM practices, such as financial planning, budgeting, internal control, procurement, and revenue mobilization, affect the revenue collection of selected Kenyan County Governments. These practices influence growth, efficiency, effectiveness, performance, and sustainability.

The New Public Management Theory (NPM) has been criticized for its unclear relationship between policymaking and service provision, concerns over politicization of public services, and concerns about managers' loyalty. NPM raises governance issues of integrity and

compliance, and can undermine public trust in government. This study addressed these issues by using institutional theory to examine the governance framework for public finance management in county governments. Additionally, NPM has neglected to recognize information and communication technology as a crucial element of an efficient policy management system. The Digital Era and the significance of technology infrastructure in bridging this divide are highlighted in the Technology Acceptance Model, which is gaining popularity in emerging nations.

2.1.2 Technology Acceptance Model (TAM)

The adoption and utilization of information technologies can provide both immediate and long-term advantages at both organizational and individual levels. These benefits include enhanced performance, improved financial and time efficiency, and greater convenience (Foley Curley, 1984; Sharda, Barr & McDonnell, 1988). This potential for technology to deliver value has driven research in information systems (IS) management to explore the factors influencing individuals' willingness to embrace innovative technologies (Davis, 1989). The study of technology adoption gained prominence during the 1980s, coinciding with the rise of personal computers. However, a significant challenge in advancing research on personal computing adoption was the lack of empirical insights into how users responded to the performance of information systems. Prior to the development of the Technology Acceptance Model (TAM), various technological and organizational approaches were employed to advance IS research (Benbasat, Dexter & Todd, 1986; Robey & Farrow, 1982; Franz & Robey, 1986). For instance, earlier studies emphasized the importance of involving users in the design and implementation of information systems, while another research stream focused on evaluating and refining system design and features (Gould & Lewis, 1985; Good et al., 1986).

To address the absence of a theoretical framework and measurement scales for technology acceptance, Davis (1989), introduced the Technology Acceptance Model (TAM) in 1989, building on the Theory of Reasoned Action (TRA). TAM proposed that in the context of technology use, behavioral intention is influenced not by a general attitude but by specific beliefs about the technology's usefulness and ease of use. The model aimed to provide a streamlined framework for analyzing a wide range of user behaviors related to technology adoption. Over time, TAM has become one of the most widely applied models for understanding users' acceptance and use of technology.

Researchers have tested TAM in various contexts, examining the acceptance of technologies such as mobile banking, telecommunications, virtual reality, and e-learning systems (Adams, Nelson & Todd, 1992; Venkatesh & Davis, 1996; Wilson, 2004; Al-Gahtani, 2016). While perceived usefulness consistently emerged as a significant factor across different technologies, findings regarding perceived ease of use were less consistent. For example, the adoption of text-mining tools required users to perceive the software as both useful and easy to use. Similarly, TAM constructs significantly influenced behavioral intention when studying the acceptance of the World Wide Web. However, when TAM was applied to virtual reality, perceived usefulness predicted intention, but ease of use was not a significant factor for potential users ((Singh, Sinha & Liébana-Cabanillas, 2020).

Given the widespread use of information systems in marketing products and services, TAM has proven valuable in studying consumer attitudes toward technologies such as chatbots, e-commerce platforms, and online shopping tools (Araújo & Casais, 2020). For instance, TAM has been used to analyze how consumers assess online shopping tools, revealing that trust and TAM constructs significantly influence attitudes toward IS tools and subsequent purchasing behavior. Additionally, TAM has been effective in explaining the acceptance of e-commerce chatbots, which positively impacted purchasing intentions. However, when the model was tested on both new and returning customers of online stores, it was found to predict behavior only for those with prior experience with the stores (Bruner & Kumar, 2005).

Given that information systems are extensively used in the marketing of products and services, TAM became a handy tool to examine the attitude of consumers towards technologies, such as chatbots, e-commerce platforms and online shopping tools, enabling online trading (Gefen, Karahanna & Straub, 2003; Araújo & Casais, 2020). For example, TAM was used to investigate the assessment of online shopping tools by consumers, underpinning their intention to purchase through e-commerce platforms. It was confirmed that along with trust, TAM constructs contribute to a considerable proportion of variance in the attitude towards IS tools and subsequent consumer behaviour (Gefen, Karahanna & Straub, 2003). In addition, TAM was successful in explaining the acceptance of e-commerce chatbots, which contributed to purchasing intention (Araújo & Casais, 2020). However, when the model was tested on both potential and repeated customers of online stores, the model predicted the behaviour of only

those customers who already had prior experience with the stores (Gefen, Karahanna & Straub, 2003; Bruner & Kumar, 2005).

This model is used to predict the acceptance of information technology when used in an agency.

Technology acceptance model (TAM) is one of the popular and commonly used model to study the social mechanisms of technology adoption, which has been modified from time to time. TAM helps to model how peoples come to admit and utilize new technologies. Researches have been conducted to assess whether TAM elements can be applied to technology adoption and user acceptance. The measuring instrument used by Davis *et al.*, (1989) at the beginning of the emergence of this theory is perceived ease, perceived usefulness, behavioral intention, and actual use. The implementation of TAM is often grouped into two parts, namely internal variables and external variables. Internal variables perceived ease, perceived usefulness, behavioral intention, and actual use are often taken from existing models, while external variables are modified from the factors that influence these internal variables (Ramayani et al, 2023).

The Technology Acceptance Model (TAM) was used in this study to understand individual user acceptance of technology, considering factors like perceived usefulness and ease of use. The model provides insights into how technology infrastructure is perceived and adopted by government officials and citizens, influencing its impact on the OSRC. The study hypothesized that the constructs and associations described in the modified external variable of TAM model are valid to measure behavioral intention to use technology by county governments in Kenya. Technological infrastructure (TI) refers to the foundation of an IT service in an organization, including computer hardware, software, networks, and people. Although not part of the TAM constructs, facilitating conditions influence users' attitude and intention to use technology. The study focused on technological infrastructure dimensions such as automation of revenue collection, mobile payments systems, online response processes, and integrated tax management systems.

2.1.3 Institutional Theory

Institutional theory, developed by Meyer and Rowan (1977) and Zucker (1977), is a comprehensive approach to understanding societal structures. It emphasizes the social character and perception of societal behavior, focusing on the application, regulative,

normative, and cultural cognitive aspects of these structures. This theory has gained popularity due to its ability to provide guidelines for individuals and corporations' actions. Public administration and public policy scholars have long recognized its importance in understanding policy action and institutional change. Institutions are composed of cultural-cognitive and regulative elements, along with associated activities and resources, which give meaning to life. Scott (2004) explains the three pillars of institutions as regulatory, normative, and cultural cognitive. The regulatory pillar emphasizes the use of rules, laws, and sanctions as enforcement mechanisms, while the normative pillar focuses on norms and values, with social obligation as the basis for compliance. The cultural-cognitive pillar is based on shared understanding of common beliefs and symbols.

This study used Institutional Theory to analyze the impact of formal and informal rules, norms, and structures on organizational behavior and outcomes. It focused on the governance framework's influence on Public Financial Management (PFM) practices and the Organization for Social Responsibility (OSRC) and its role in fostering compliance and revenue collection. The theory is relevant to Kenya's devolved government systems, where the national government has disbursed Ksh.3.533 trillion to county governments since 2013. The constitution mandates a minimum allocation of 15% of revenue to county governments, with over 60% of total expenditure on procurement. The governance framework is anchored on legal frameworks like the Constitution of Kenya 2010, County Governments Act 2012, and the Public Finance Management Act 2012, as well as policy frameworks like County Revenue Policies and the Commission for Revenue Allocation (CRA). The governance framework mediates the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

2.1.4 Public Choice theory

Public choice theory is a branch of economics that developed from the study of taxation and public spending. It emerged in the fifties and received widespread public attention in 1986, when James Buchanan, one of its two leading architects (the other was his colleague Gordon Tullock), was awarded the Nobel Prize in economics (Mueller, 2019). As early as 1651, English philosopher Thomas Hobbes laid the groundwork for what would develop into public choice theory when he argued that the justification for a political obligation is that since people are naturally self-interested, yet rational, they will choose to submit to the authority of a

sovereign government to be able to live in a stable civil society, which is more likely to allow them to fulfill their interests (Hobbes, 1651). The influential eighteenth-century German philosopher Immanuel Kant wrote that for any action to have moral worth, it must be undertaken out of a sense of duty. According to Kant, actions taken out of self-interest selfish benevolence simply because they make the individuals taking them “feel good” about themselves, preclude the possibility of those actions having any moral value (Kant, 1785).

Public choice takes the same principles that economists use to analyze people's actions in the marketplace and applies them to people's actions in collective decision making. Economists who study behavior in the private marketplace assume that people are motivated mainly by self-interest. Although most people base some of their actions on their concern for others, the dominant motive in people's actions in the marketplace whether they are employers, employees, or consumers is a concern for themselves. Public choice economists make the same assumption that although people acting in the political marketplace have some concern for others, their main motive, whether they are voter, politicians, lobbyists, or bureaucrats, is self-interest. In Buchanan's words the theory "replaces romantic and illusory notions about the workings of governments [with] notions that embody more skepticism" (Buchanan, 1986).

Public Choice Theory is an economic theory that analyzes the behavior of individuals and organizations in the political decision-making process. The theory posits that individuals are rational actors who make choices based on their own self-interest. In this study titled public financial management practices, governance framework, technological infrastructure and Own Source Revenue by county governments in Kenya the relevance of Public Choice Theory lies in its ability to provide insights into the decision-making processes of county governments.

In Public Choice Theory, several components or building blocks can be identified. These include rationality, “self-interest, institutions, and collective action. Rationality refers to the idea that individuals are capable of making logical decisions based on their preferences and available information. Self-interest suggests that individuals seek to maximize their own well-being and welfare. Institutions, such as rules, regulations, and formal structures, play a crucial role in shaping individuals' behavior and choices. Lastly, collective action examines how individuals come together to achieve common goals or address collective issues. Applying these components to the study at hand, the researcher will analyze how rational decision-

making by county officials can lead to the adoption of specific public financial management practices, the establishment of governance frameworks, the investment in technological infrastructure, and the generation of Own Source Revenue. Additionally, the researcher will examine how individual self-interest can influence the allocation of resources and the adoption of policies that benefit certain groups or individuals within the county government.

The relevance of Public Choice Theory in this study lies in its ability to provide a theoretical framework to understand and explain the decision-making processes of county governments in Kenya. By considering the rational behavior and self-interest of individuals, as well as the role of institutions and collective action, the theory can help identify the factors that influence public financial management practices, governance frameworks, technological infrastructure, and Own Source Revenue generation. This understanding can inform policymakers and stakeholders in developing more effective strategies and policies to enhance public financial management and governance practices at the county level in Kenya.

2.2 Empirical Literature Review

This is the review of past published materials that provide an examination of recent or current literature (François, 2020). It is a comprehensive overview of prior research regarding a specific topic that shows the researcher/reader what is known about a topic, and what is not known, thereby setting up the rationale or need for a new investigation.

2.2.1 Public financial management practice and own-source revenue collection

The study conducted by Taek, Djhamhuri, and Baridwan (2020) provides a comprehensive examination of local own-source revenue management within the Belu District government in Indonesia, employing a phenomenological approach to capture the lived experiences of the State Civil Apparatus involved in this process. Utilizing the interpretive paradigm and the Husserlian phenomenology framework, the researchers aimed to delve into the subjective interpretations of informants regarding their roles in managing Regional Original Revenues, which encompass regional taxes. The findings reveal that these officials perceive their responsibilities as integral to the effective management of local revenue streams, highlighting the significance of public financial management practices in enhancing revenue generation. This study serves as a foundational reference for exploring similar dynamics in the context of county governments in Kenya, where the impact of public financial management practices on

own-source revenue is also under investigation. By drawing parallels between the two contexts, the research underscores the critical role of effective revenue management strategies in achieving financial sustainability and accountability within decentralized governance structures.

The study conducted by Pagarra (2023) investigates the challenges faced in public sector innovation aimed at enhancing local own-source revenue in Makassar City, Indonesia. This revenue encompasses various components, including regional taxes, levies, and the management of regional assets. Employing qualitative data collection methods such as observations, interviews, and documentation analysis, the research reveals that the regional revenue department has initiated innovation programs, notably through the implementation of integrated and digitalized tax applications designed to improve tax collection efficiency. However, the study identifies significant barriers to the successful execution of these innovations, particularly the insufficient training and technical guidance provided to employees. This lack of support hinders the effective adoption of innovative practices within the public sector. Consequently, the study underscores the critical need for enhanced training and guidance to cultivate a culture of innovation, thereby facilitating improved revenue generation and management in local government operations.

A study by Otoo and Danquah (2021) investigated the relationship between own-source revenue and municipal performance in the Cape Coast Metropolitan Assembly of Ghana, employing a mixed-methods approach that combines quantitative financial data analysis with qualitative interviews and surveys of local government officials. Their findings reveal a positive correlation between higher levels of own-source revenue and improved service provision, infrastructure development, and overall municipal performance, emphasizing the critical role of local revenue mobilization in enhancing the effectiveness of local governments in delivering essential services. However, the study presents a contextual gap as it was conducted in Ghana, a country with social, economic, and governance structures distinct from Kenya. Kenya's devolved system of governance, characterized by 47 county governments with unique revenue-generation mandates, differs significantly from Ghana's unitary system. The current study, therefore, seeks to address this gap by examining the effect of public financial management practices on own-source revenue within the Kenyan context, providing insights tailored to the unique challenges and opportunities faced by Kenyan county governments.

The study by Munyambonera and Lwanga (2020) provides a thorough evaluation of the public financial management (PFM) reforms implemented by Uganda's Ministry of Finance since the fiscal year 2012/2013. Key reforms included the establishment of a Treasury Single Account (TSA), enhancements to the Integrated Financial Management System (IFMS) and the Integrated Personnel and Payroll System (IPPS), as well as improvements in wage and payroll management, budget formulation, implementation, monitoring, and reporting. These reforms aimed to strengthen budget credibility and overall public expenditure management. Despite encountering various challenges, the reforms have led to significant positive outcomes, notably in enhancing accountability, improving financial reporting, and bolstering service delivery. The findings indicate that these key PFM reforms have not only improved the management of public expenditures but have also contributed to greater accountability and a reduction in the overall wage bill across all Ministries, Departments, and Agencies (MDAs), thereby fostering a more efficient and transparent public financial management environment in Uganda.

The study conducted by Sausi, Kitili, and Mtebe (2021) utilized the updated DeLone and McLean model to assess the effectiveness of the local government revenue collection and information system (IS) implemented in Tanzania. Employing a concurrent mixed-methods research design, the study integrated both quantitative and qualitative data within a single investigation. A total of 296 users from local government authorities (LGAs) across five regions in Tanzania participated in the research. The findings revealed that system quality and information quality had a significant positive impact on the system's success, while service quality and trust in the system had a significant negative effect. Additionally, facilitating conditions were found to have no impact at all. The study also highlighted that municipalities with a more diverse revenue base, including higher levels of own-source revenue, were better positioned to fund and enhance service delivery, leading to improved overall performance. This underscores the importance of revenue diversification in sustaining local government services. However, the study was conducted in Tanzania, whose operational environment differs from that of Kenyan counties. The current study will address this contextual difference by examining the effect of public financial management practices on own-source revenue in Kenyan county governments, adopting a descriptive research design to achieve its objectives.

The study conducted by Jepkoech in 2021 evaluates the efficiency of revenue collection in Nandi County, Kenya, identifying several key factors that positively influence this efficiency. These factors include staff competency, automation, internal control, an effective taxation system, and public awareness. The research underscores the critical role of technology in the tax system, suggesting that it enhances both domestic and local competitiveness, which is vital for improving revenue collection. However, a notable limitation of the study is its focus on a single county, which restricts the ability to generalize the findings across all 47 counties in Kenya. This limitation highlights the need for broader research that encompasses multiple counties to provide a more comprehensive understanding of revenue collection efficiency in the country. The current study aims to build on this foundation by investigating the impact of public financial management practices on own-source revenue across county governments in Kenya. This broader approach will allow for comparisons and a more nuanced understanding of how various financial management practices influence revenue generation at the county level.

The study conducted by Wangui et al. (2021) investigates the relationship between staff competence and the performance of county governments in Kenya. Utilizing questionnaires, the researchers collected data from 252 respondents across several counties, including Kiambu, Kirinyaga, Nyeri, Nyandarua, and Murang'a. The findings indicate a significant positive correlation between staff competence and government performance, suggesting that enhancing staff skills and developing new capabilities through targeted training programs are essential for improving overall performance in county administrations. However, a limitation of the study is its reliance on primary data collection methods, which do not facilitate the tracking of variables over time. This constraint highlights the need for longitudinal studies to better understand the dynamics of staff competence and its impact on performance in the public sector.

The study conducted by Ochuodho and Ngaba (2020) investigates the impact of several key factors on financial performance in Kisumu County, Kenya. Specifically, the research focuses on the Integrated Financial Management Information System (IFMIS), revenue diversification, internal control, and employee motivation. The study involved 49 senior revenue administration officers from seven sub-counties, utilizing questionnaires for data collection. The analysis employed descriptive statistics, content analysis, and Pearson

correlation analysis to interpret the data. The findings of the study reveal that the effective implementation of the IFMIS, along with revenue diversification, strong internal controls, and motivated employees, significantly enhances revenue collection performance. This suggests that these elements are crucial for improving financial outcomes within the county government context. Moreover, the study recommends expanding the research scope to include 11 counties to further explore the effects of public financial management practices on own-source revenue generation by Kenyan county governments. This broader approach would allow for a more comprehensive understanding of how these practices influence financial performance across different contexts, potentially leading to more effective strategies for revenue enhancement in the public sector.

2.2.2 Public Finance Management Practices, Governance Framework and Own-Source Revenue Collection

The objective of a research conducted by Herdiansyah and Mukran (2022) was to develop a strategic model for enhancing the quality of public services with the purpose of maximising the district's Own Source Revenue for the Government of Palembang, Indonesia. The study employed a descriptive qualitative research methodology using a strategic management approach and conducting internal and external evaluations of the organisation. The methods for gathering data include observation, interviewing, and documenting. The findings indicated that the strategy model for enhancing the quality of public services in order to maximise the region's own-source revenue (OSR) of Palembang. Government is a complex system of interconnected activities and components that cannot be isolated from each other. These include the vision, mission, regulations, information technology, and the function and quality of the State Civil Apparatus (ASN) in providing public services. If the service meets the required standards, individuals will experience satisfaction. The level of community satisfaction directly influences their compliance with tax and levy payments as a means of generating income. If the reception of OSR can be optimised in line with the established goals, then ensuring accountability for the allocation of OSR funds is crucial for delivering high-quality public services. Both studies are similar in that they aim to understand how PFM practices and technological infrastructure influence a government's ability to collect its own revenue (Own-Source Revenue - OSR). The current study focuses on county governments in Kenya, while the Indonesian study is specific to the Palembang District government. The study by Herdiansyah, and Mukran, (2022) used a descriptive qualitative approach with

internal and external analyses; the current study will be quantitative where the primary data will be collected by use of structured questionnaires.

In 2023, Okeyo conducted a study to evaluate fiscal decentralization and its role in enhancing county own-source revenue (OSR) through the implementation of the Busia County Cess Act. The study focused on three key objectives: first, to analyze the legal and policy frameworks influencing the enactment of the Cess Act for agricultural produce collection in Busia County; second, to identify the challenges hindering effective administration and collection under the Act; and third, to assess the effectiveness of the collection and administration strategies outlined in the Act. Using a mixed-methods approach, the research engaged a diverse group of stakeholders involved in agricultural revenue processes, including taxpayers and tax officers, stratified into three tiers for comprehensive analysis. Data collection methods included document analysis of relevant county and national reports, quantitative data from semi-structured questionnaires, and qualitative insights from focus group discussions and key informant interviews. The study sampled 461 participants, adjusted upward by 20% based on Fischer et al. (1998) to account for potential non-participation. The findings revealed significant legal and policy gaps, as well as operational challenges that impeded effective Cess collection and administration. The study, grounded in the theoretical framework of fiscal decentralization, highlighted the complex interplay between policy intentions and practical challenges. It concluded by emphasizing the need for coherent legal frameworks, efficient strategies, and active stakeholder engagement to bridge the gap between policy aspirations and implementation realities, ultimately advancing sustainable county development in Kenya. Conceptually the current study will examine the governance framework indicators of constitution of Kenya 2010, public finance management act 2012, public procurement and asset disposal act 2015 and international public sector accounting standards (IPSAS). The current study will assess the mediating effect of governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

The study by Wakwabubi, Nkundabanyanga, Orobia, and Kaawaase (2023) investigated the mediating role of local government delivery systems in the relationship between local governance and financial distress in Uganda. The research involved 109 local governments and used a questionnaire survey. The findings showed that the delivery system, particularly in

terms of capacity development and community participation, significantly contributed to financial distress. However, political clientelism and oversight mechanisms were found to be more significant contributors. The study suggests that the delivery system may mediate the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

In a study conducted in 2023, Sande, Okiro, Wanjare, and Omoro, investigated the mediating effect of public participation on the relationship between budgeting practices and financial performance of county governments in Kenya. Public participation in budgeting practices has long been seen as a mechanism that leads to improved governance and financial outcomes. The study sought to examine the influence of public participation on the relationship between budgeting practices and the financial performance of county governments in Kenya. The study was grounded in the public budget theory and employed a pragmatic research philosophy and an ex-post facto research design. The study's target population included 47 county governments in Kenya. Data was collected via questionnaires, targeting the controller of budget in each county. The study employed both inferential and descriptive statistical analyses and performed regression and correlation analyses. The correlation results revealed that public participation and financial performance reveals a significant and positive influence of public participation on financial performance at County Governments ($r=.555$, $p=0.000$). The coefficient for budgetary practices (BP) is 0.612, indicating a positive and significant effect on financial performance. The coefficient for public participation (PP) is 0.342, indicating a positive and significant effect on financial performance. The t-values of 5.948 (BP) and 4.417 (PP), along with p-values of 0.000, suggest that both budgetary practices and public participation have statistically significant relationships with financial performance. The regression results indicate that both budgetary practices and public participation have positive and significant effects on the financial performance of County Governments in Kenya. Based on these results, the study concluded that public participation partially mediates the relationship between budgeting practices and financial performance in county governments. Therefore, the study recommends promoting public participation in respective counties as a strategy to enhance the financial performance of County governments. The foregoing study discussed above was limited to mediating effect of public participation on the relationship between budgeting practices and financial performance of county governments in Kenya. The study did not assess how governance framework mediates the relationship between public financial management

practices and own-source revenue in selected county governments in Kenya which this study sought to establish. The current study aims to assess the mediating effect of governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

The study conducted by Elias Mbau (2019) investigated the mediating effect of allocative efficiency on the relationship between fiscal decentralization and county government performance across 47 Kenyan counties from 2013 to 2018. Utilizing a positivist research approach, Mbau collected a substantial dataset comprising 235 data points over the five-year period. The methodology included preliminary statistical tests such as multiple regression analysis and correlational testing, which were employed to assess the direction and strength of the relationships among the variables. The findings of the study revealed that allocative efficiency did not significantly mediate the relationship between fiscal decentralization and county performance. This outcome suggests that while fiscal decentralization is intended to enhance the performance of county governments by allowing for more localized decision-making and resource allocation, the expected improvements in performance through allocative efficiency were not realized in this context. This could imply that other factors may play a more critical role in influencing county performance, or that the mechanisms of allocative efficiency may not be effectively operationalized within the framework of fiscal decentralization. Building on Mbau's (2019) findings, the current study shifts focus to examine the mediating effect of governance frameworks on the relationship between public financial management practices and own-source revenue generation by county governments in Kenya. This transition highlights the importance of governance structures in facilitating effective financial management and revenue collection. By exploring how governance frameworks can influence the efficacy of public financial management practices, the current research aims to provide a deeper understanding of the dynamics at play in enhancing county revenue generation, potentially addressing the gaps identified in Mbau's study regarding the role of allocative efficiency. This approach may offer valuable insights into improving fiscal performance and ensuring that county governments can effectively harness their financial resources for development.

The study conducted by Ndakalu (2022) provides valuable insights into the challenges faced in revenue collection within Kakamega County, Kenya, highlighting the significance of

integrated approaches in enhancing fiscal performance. By surveying 442 senior and middle-level finance department employees, the research identified critical gaps in existing revenue policies related to administration, property rating, trade licensing, and public participation. These findings underscore the necessity for robust and comprehensive revenue frameworks that can effectively support the county's financial management objectives. The study emphasizes that County Executives play a pivotal role in drafting revenue laws, which are subsequently reviewed and legislated by County Assemblies. This legislative process is essential for establishing a clear and enforceable revenue collection system. Moreover, the research highlights the importance of stakeholder engagement and public participation in the revenue collection process. Engaging various stakeholders ensures that the revenue policies are not only well-informed but also reflective of the community's needs and expectations. However, the study's focus on Kakamega County presents a limitation, as it restricts the ability to draw broader comparisons with other county governments in Kenya. This specificity may hinder the generalizability of the findings, suggesting a need for further research across different counties to understand the diverse challenges and successes in public financial management practices throughout the region. Overall, Ndakalu's study contributes to the discourse on improving revenue collection strategies in Kenyan counties by advocating for integrated approaches and active public involvement.

Kamara's (2021) research explored the impact of tax compliance, tax structure, and the delivery of taxpayer services on the collection of tax revenue by the Kenya Revenue Authority (KRA). The study adopted a descriptive research design, focusing on management staff working in KRA offices located in Nairobi County. Data collection was conducted using questionnaires, which were distributed to selected KRA managers through an online survey platform. Both descriptive and inferential statistical methods were utilized to analyze the collected primary and secondary data. The analysis included calculating means and standard deviations, while a multivariate regression model was employed to establish the relationship between the independent variables and the dependent variable. The findings indicated that tax compliance had a coefficient of $\beta=0.300$ ($p\text{-value} = 0.017$), demonstrating a positive and statistically significant effect on tax revenue collection. Similarly, tax structure showed a coefficient of $\beta=0.279$ ($p\text{-value} = 0.039$), signifying a positive and significant influence on tax revenue collection. Additionally, the delivery of taxpayer services was found to have a coefficient of $\beta=0.355$ with a $p\text{-value}$ of 0.007, which was statistically significant at the 5%

level. This result highlighted that taxpayer services delivery positively and significantly impacted tax revenue collection. The study concluded that effective tax administration is crucial for national development, emphasizing the importance of tax compliance, tax structure, and taxpayer services in enhancing tax administration strategies. It recommended that KRA management implement stricter policies to reduce tax evasion and boost revenue collection. Furthermore, the study suggested that tax administration strategies should be informed by performance evaluations of existing measures, such as adopting automated systems, implementing progressive policies, and harmonizing tax rates to improve compliance and revenue collection. Unlike the current study, Kamara's research focused on tax revenue collection by KRA rather than revenue generation by county governments in Kenya. Additionally the current study aims to investigate the mediating effect of governance frameworks on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

A study by Musa in 2020, investigated the impact of customer service reforms on tax revenue collection in Mandera County. The aim of the study was to determine the effect of Customer service reforms on the tax revenue collection over the years in, Mandera County. The specific objectives were as follows; to assess the effect of KRA calls centers on tax revenue collection, evaluate the Huduma centers on tax revenue collection, and investigate the mobile service policy reform on tax revenue collection, to determine and to determine the taxpayer's education reforms on tax revenue collection. The study adopted descriptive research design to guide the study. The study used both primary data by use of questionnaire and secondary data obtained from relevant materials which represent academic research. The research instrument for this research was a closed structure questionnaire. The target population was 100 individuals who were selected by the stratified method of sampling. The study analysed the data by the use of both descriptive and inferential statistics. The inferential statistics included the use multiple regression, ANOVA and correlation analysis. Data was analysed by the use of SPSS (Statistical Package for Social Sciences) Version 24. The finding of the study revealed that KRA call centre, Huduma center, mobile service, taxpayer affects tax revenue collection and the study was statistically significant. The study recommends that the KRA call center should be enhanced for taxpayer satisfaction, Huduma center KRA staff should keep customers more informed, KRA mobile payment systems be enhance to improve in compliance. And on taxpayer education should be carried out more times in a year for improvement on tax revenue

collection In conclusion, KRA call center, Huduma center, mobile service and taxpayer education had positive significant effect on tax revenue collection in Mandera County Therefore, the study suggests the need for more studies that are national based to understand the effect of customer service reforms on tax revenue collection in Kenya. The forgoing study by Musa (2020) was only based on Customer service reforms on the tax revenue collection in only one county of Mandera and so cannot be generalized to all county governments in Kenya as it is the with the current study that was carried out in eleven best performing counties in own-source revenue in Kenya. Additionally, the study established the mediating effect of governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

2.2.3 Public Finance Management Practices, Technological Infrastructure and Own-Source Revenue Collection

Study by Mgonja, and Poncian, (2019) examined the Managing revenue collection outsourcing in Tanzania's local government authorities: a case study of Iringa Municipal Council. The study notes that, due to their critical role in development and governance, local governments need adequate financial resources to deliver the many developmental functions. However, such financial resources are either not available or inadequate. One way of rising to this challenge has been scaling up revenue collection from local revenue sources. This is done through either in-house collection or outsourcing revenue collection. From interviews conducted with Iringa Municipality officials and staff, the paper shows that revenue collection outsourcing can be an effective tax administration strategy if properly managed. The current study on Public Finance Management Practices in Kenya focuses on the effect of various factors, including technological infrastructure and own-source revenue collection, on Kenya's county governments' financial management. On the other hand, the study by Mgonja and Poncian (2019) on revenue collection outsourcing in Tanzania's local government authorities specifically examines the management of private collectors and the benefits of outsourcing revenue collection. The Kenya study has a broader scope, encompassing multiple aspects of public finance management, while the Tanzania study focuses specifically on revenue collection outsourcing. While the studies provide valuable insights into specific aspects of financial management in local and county authorities and government, there are still knowledge gaps that need to be addressed. There is a need for further research on the effectiveness of

different revenue collection strategies and their impact on the financial sustainability of local governments and more so county government in Kenya.

A study by Owandho (2020) examined the effects of technological innovation challenges, inter-governmental consultation constraints, institutional arrangement concerns, and tax base factors on revenue collection by the County Government of Homa Bay. Using a descriptive research design, the study targeted 141 sub-county officials, including revenue officers, finance officers, and revenue collection clerks. Primary data was collected through self-administered structured questionnaires, and the analysis employed correlation and regression models. The regression analysis revealed statistically significant and positive relationships between technological innovation, inter-governmental consultations, institutional arrangements, tax base factors, and revenue collection. These findings highlight the critical role of these factors in enhancing revenue collection at the county level Owandho (2020). However, the current study will expand on this by assessing the mediating effect of governance frameworks on the relationship between public financial management practices and own-source revenue across eleven county governments in Kenya, providing a broader and more comparative perspective rather than focusing on a single county.

The study by Nyagah and Njoka (2022) examined the moderating effect of public participation on public finance management performance in Embu County Government, Kenya. The research, informed by democratic theory, stakeholder theory, stewardship theory, the ladder of participation, agency theory, and new public finance management theory, included 12 participants comprising a chief, an assistant chief, county officials, and village elders. This diverse group provided valuable insights into the dynamics of governance and public financial management practices within the community. The study found that the Embu County government uses print media, social media, print media, and telephone calls to invite public-to-public participation forums. The public participation leader ensures everyone has a chance to participate, and respondents consider their profession/education sufficient for effective participation. The findings are not generalizable to other Kenyan county governments. The study's focus on Embu County may limit its generalizability.

A study by Laban, Muchiri and Muthinja, Moses (2023) investigated the impact of automation on revenue collection in Nyandarua County, Kenya, focusing on the effects of automated

revenue systems, mobile payments, online response processes, and integrated tax management systems on the county's own-source revenue. The study is grounded in the Resource Based Views Theory and Transaction Cost Theory, targeting 12 officials and 40 staff members from the Department of Financial Reporting and Accounting and the ICT Department within the Nyandarua County Government. The analysis includes the County Revenue Director, five Sub-County Revenue Officers, and 20 support staff involved in revenue collection, as well as the ICT Director and five ICT Officers overseeing each Sub-County, along with 20 ICT support staff. Data was collected through questionnaires and financial records, analyzed using SPSS software. Both inferential and descriptive statistics were employed to assess quantitative data, while qualitative data was evaluated through content analysis. The results were presented in tables and figures, utilizing frequencies, means, and standard deviations. A multivariate regression model was used to explore the correlations among the factors. At a 95% significance level, the findings revealed an R squared value of 0.862 and an adjusted R squared of 0.849, indicating that automation accounts for 84.9% of the variation in own-source revenue collection in Nyandarua County. The study found that mobile payments ($\beta = .538$, $p = .005$), online response processes ($\beta = .239$, $p = .042$), and the integration of tax management systems ($\beta = .282$, $p = .019$) all had significant positive effects on revenue collection. The research concluded that automating revenue collection positively impacts own-source revenue in Nyandarua County and recommended that other counties explore automation to improve their revenue collection efforts. The findings are not generalizable to other Kenyan county governments. The study's focus on Nyandarua County may limit its generalizability. The current study will examine the effect of technological infrastructure on own-source revenue by 11 county governments in Kenya.

A study conducted by Munguti, G. M. (2022) explored ways to enhance Own Source Revenue in Machakos. This correlational research involved 286 participants and utilized questionnaires for data collection. The analysis was performed using Statistical Package for Social Sciences (SPSS) version 23, employing descriptive statistics to identify revenue streams and challenges, while correlational tests and binary logistic regression were used to evaluate three research hypotheses. The results indicated that property tax was the most effective revenue stream, accounting for 25.6%. The primary challenge identified was the lack of experienced and qualified staff, which was noted by 13.9% of participants. Additionally, participants generally disagreed with the challenge statements, showing minimal variability in their responses ($M =$

3.07, Mdn = 3.08, SD = .82). The study also found significant correlations between revenue mobilization and factors such as automation ($r = .64$, $p = .00$), human resource training ($r = .53$, $p = .00$), and enforcement ($r = .52$, $p = .00$). Regression analysis revealed that both automation ($p = 0.00$) and enforcement ($p = .01$) were statistically significant, while human resource training ($p = .33$) was not. These findings suggest that Machakos has the potential to improve its Own Source Revenue. The county is encouraged to optimize its revenue streams, develop strategies to address challenges, automate revenue collection systems, and enforce taxable transactions effectively. The current study will examine the effect of technological infrastructure on own-source revenue by 11 county governments in Kenya.

The 2020 study by Mbau, Iraya, Mirie, and Njihia examined the impact of public governance on the relationship between fiscal decentralization and the performance of County Governments in Kenya from 2013-2018. Key indicators of public governance included human capital, accountability, and compliance with laws. Fiscal decentralization was measured through equitable revenue from the National Government, local revenues, and transfer grants from other development partners. Performance was assessed through promoting citizen wellbeing, reducing poverty and inequality, and increasing living standards at various levels. The study used multiple regression and correlation analysis to estimate the direct and interaction effects of the parameters. The results showed that public governance moderated the relationship between fiscal decentralization and county government performance. The current study aims to address the conceptual gaps in the Mbau et al. (2020) study by examining the moderating effect of technological infrastructure on public financial management practices and own-source revenue in selected county governments in Kenya.

The research conducted by Abdille (2022) focused on understanding how public participation influences the connection between revenue generation and financial sustainability within Garissa County, Kenya. By engaging 150 employees and senior officials across 30 wards, the study revealed that effective county policies, efficient revenue administration, and active public consultations significantly contribute to enhancing financial sustainability. Despite these positive findings, a notable gap was identified: public participation is not integrated into the policy-making processes related to revenue collection. This exclusion suggests a missed opportunity for community engagement in shaping how revenues are generated and managed. To address this, the study advocates for comprehensive training programs for new employees,

emphasizing critical aspects of revenue management such as preparation, scheduling, inspection, accounting, reporting, and enforcement. However, it is important to note that the findings of this study are specific to Garissa County and may not be generalized or compared with those of other county governments in Kenya, highlighting the need for further research in different contexts to draw broader conclusions.

A study conducted by Onger, Magutu, and Litondo (2020) assessed the moderating role of information technology infrastructure on the relationship between business process re-engineering (BPR) strategy and the performance of food manufacturing companies in Kenya. The researchers employed a descriptive cross-sectional survey design for data collection and analysis, gathering primary data through a structured questionnaire and secondary data from published company reports. Out of the 75 targeted respondents, 44 participated, resulting in a response rate of 56.67%, which was deemed sufficient for analysis and represented various subsectors adequately. Hypothesis testing revealed that 64.6% of the variations in overall firm performance could be attributed to changes in the BPR strategy, information technology infrastructure, and the interaction between the BPR strategy and the IT budget. Consequently, the alternative research hypothesis was supported. The study concluded that information technology infrastructure significantly and positively moderates the relationship between BPR and the performance of food manufacturing companies in Kenya, thereby reinforcing the resource advantage and resource-based theories. This research offers valuable insights across various domains, including theoretical implications, policy recommendations, management practices, and methodological advancements. The authors emphasized that managers should prioritize information technology infrastructure when implementing BPR strategies to enhance overall firm performance and service delivery. Additionally, a noteworthy methodological contribution was the application of a quantitative composite index to calculate firm performance and the use of an integrated empirical model to examine the interplay between BPR strategies, IT infrastructure, and performance.

The study by Jarso, S. A. (2023) evaluated the impact of the Isiolo County Government's financial management procedures and service delivery. Establishing the impact of internal control systems, public engagement, e-procurement, and revenue collection mechanisms on service delivery by the Isiolo County government were the study's particular goals. A sheet for collecting secondary data was used to gather information from secondary sources such as books,

journals, and previous publications. The Fiedler contingency theory and systems theory served as the study's base, with the New Public Management Theory as its pillar. In this study, a descriptive research approach was used. The study concludes that internal control systems in accounting ensure that financial data is recorded accurately, following the applicable principles and standards. Public participation assures greater transparency and gives a voice to members of the public and civil society organisations that may be directly impacted by a County government policy. Procurement management involves sourcing the most cost-efficient resources possible, resulting in significant budgetary savings. Revenue collection concerns the sources of funds, contribution structures, and the means by which they are collected, while fund pooling addresses the need to spread the risk of incurring unexpected health care costs over as broad a population group as possible. The study recommends that the County should conduct comprehensive risk assessments to proactively address potential threats and vulnerabilities. The County should use an engagement platform that is convenient and easy to use and a platform that can reduce the time spent on engagement without compromising the outcomes will be helpful. The County should the County should implement a contract management system by making use of technology to save time and be more efficient by implementing a contract management system. A good revenue collection mechanism should induce strong rates of compliance and revenue collection, limit business compliance errors and government administration accounts, minimize burdens and disruption for consumers and avoid adverse trade policy effects. The study by Jarso (2023) examined internal control systems, public engagement, e-procurement, and revenue collection mechanisms as conceptual indicators financial management procedures whereas the current study will examine Financial Planning Practices, Internal Control Practices, Public Finance Procurement Practices and Revenue Mobilisation Practices as indicators of financial management procedures. Specifically the study will assess the moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

A study conducted by Ringim, Razalli, and Hasnan (2019) explored the moderating effects of information technology (IT) capability on the relationship between business process reengineering (BPR) factors and the organizational performance of banks in Nigeria. The research utilized a field study survey conducted in a natural research environment, gathering data from commercial banks, microfinance banks, and primary mortgage financial institutions

across the country. Hierarchical regression analysis was employed for data analysis using SPSS software. The results indicated that IT capability significantly moderated the relationship between various BPR factors such as change management, customer focus, and management commitment and the overall performance of the banks. Additionally, the findings highlighted that IT capability also influenced the relationship between IT investment, management commitment, and customer service management performance. This study offers valuable insights for researchers seeking to deepen their understanding of how BPR factors and IT capability impact organizational performance.

In a study conducted in 2020, Donald, Guyo, and Moronge's examined the moderating effect of public participation on the relationship between political and economic relations and service delivery of county governments in Kenya. The study involved 2,061 county government officials from 47 counties, including governors, deputy governors, county secretaries, ward administrators, and county executive members. The sample consisted of 384 respondents using multiphase sampling techniques. The study used descriptive and inferential analysis, bivariate regression analysis, and moderated multiple regressions to analyze the association between inter-governmental relations dimensions, public participation, and service delivery variables. Results showed that all inter-governmental relations had a positive and significant relationship with service delivery, with public participation having a positive and significant moderating effect. The study concluded that inter-governmental relations could positively influence service delivery in terms of timely and quality delivery, improved infrastructure, revenue and debt management, and citizen service satisfaction. However, the focus on political and economic relations does not address internal public management practices, presenting a conceptual gap.

The study by Keshine's 2018 study examined the moderating role of public participation in the budget making process in Laikipia County. Primary data was collected using observation and questionnaires that were administered to members of public, community leaders and officials from the department of Finance and County administration. The researcher conducted convenience sampling where by the study area was divided into four strata. The sample size was 68 respondents from a population of 290. Descriptive statistics was used to interpret the quantitative data using percentages and frequency tables. The Statistical Package for Social Science was used as an aid in data analysis. The study found out that many residents, as indicated by the interviewed respondents partially attend participatory meetings and serve at

different committees at the various levels. Various government officers, especially ward administrators, are being consulted continuously on the budget making process. The study concluded that public participation plays a key role in budget making process across the four wards in Laikipia County. The study recommended that; appropriate information sharing modes to be utilized, appropriate mechanisms to be employed to ensure that adequate consultations are made, proper processes be put in place in order to augment public involvement, and to put in place adequate measures in order to empower the public so that they can play a role in the budget making process. The foregoing study conceptualized public participation as the moderating variable on budget making process. The budget-making process and own-source revenue (OSR) is closely interconnected, especially in the context of financial planning and fiscal management which is the gap being filled by the current study. The current study aims to assess the moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue by county governments.

2.2.4 Public Management Practices, Governance Framework, Technological infrastructure and Own Source Revenue

A 2023 study by Saprudin, Jurana, and Nina investigated the effects of local own-source revenue and balance funds on economic growth across 34 Indonesian regencies and cities from 2015 to 2019. Utilizing path analysis through the Lisrel application, the researchers assessed how these financial variables influenced economic growth. The findings revealed that local own-source revenue, balance funds, remaining budget surplus, and capital expenditure all contributed positively to economic growth. However, an interesting observation was that the balance fund negatively affected the remaining budget surplus. Methodologically, the study's reliance on straightforward path analysis overlooks moderated mediation effects merely proposing rather than empirically testing the moderating roles of technological infrastructure and governance which limits its ability to capture nuanced interactions, such as how digital tools might amplify PFM's impact on revenue amid governance constraints, thereby necessitating a more advanced structural equation modeling approach tailored to Kenya's devolved fiscal environment. The study further proposed that incorporating a moderated mediation effect of technological infrastructure and governance frameworks could effectively bridge the gap between public financial management practices and the generation of own-

source revenue in selected county governments in Kenya. This suggests that enhancing technological and governance capabilities may be crucial for improving financial outcomes in local governments.

The study conducted by Night and Bananuka (2020) explored the mediating role of revenue policy in the adoption of electronic tax systems among small business enterprises (SBEs) in an African developing economy. Utilizing a quantitative research approach, the researchers gathered data from 214 managers of SBEs to analyze the dynamics at play. The findings revealed that the adoption of electronic tax systems served as a partial mediator in the relationship between attitudes towards these systems and tax compliance. This indicates that while positive attitudes towards electronic tax systems can enhance tax compliance, the actual adoption of these systems plays a crucial role in facilitating this relationship. Furthermore, both the adoption of electronic tax systems and the attitudes towards them were found to be significantly associated with improved tax compliance. Conceptually, the study confines its mediation analysis to a narrow revenue policy conduit facilitating private-sector compliance via e-tax attitudes, thereby overlooking the reciprocal dynamics where PFM practices such as budgeting and auditing protocols interact with broader technological infrastructure and governance frameworks to drive public-sector revenue mobilization, treating revenue as an outcome of taxpayer behavior rather than a systemic fiscal autonomy enabler shaped by institutional interdependencies. This study highlights the importance of effective revenue policies and the need for fostering positive attitudes towards electronic tax systems to enhance compliance among small businesses, ultimately contributing to better tax administration and revenue generation in the region.

In a study conducted in 2020 Chacha, Nyangau, and Omare's examined the moderating effect of government policy on the relationship between revenue collection practices and financial accountability in the Rorya district council in Tanzania. The research involved 760 council members and 288 respondents using a cross-sectional survey design. The study found a significant negative relationship between cess collection and financial accountability, suggesting that cess collection revenues should be improved through a set target compatible with all customer fees. The study also recommended enhancing government policy through enforcement of laws and regulations through corporate taxes to improve collection targets. Contextually, Tanzania's centralized unitary system, with district councils operating under a

more hierarchical fiscal transfer model and limited subnational autonomy, starkly contrasts Kenya's post-2010 devolved architecture, where 47 semi-autonomous counties navigate intergovernmental fiscal rivalries, unique corruption vulnerabilities, and devolution-specific mandates under the 2010 Constitution, rendering the Tanzanian findings rooted in a single district's cess-centric challenges non-transferable to Kenya's diverse, multi-county landscape marked by uneven resource endowments and escalating demands for fiscal self-sufficiency. This oversight extends to the study's sidelining of technological infrastructure as a moderator, focusing instead on policy enforcement amid Tanzania's nascent digital fiscal tools, while ignoring Kenya's advanced yet fragmented e-revenue platforms and governance frameworks which interplay with PFM to bolster own-source revenue amid contextual pressures like ethnic federalism and post-election fiscal volatilities; consequently, these gaps necessitate a Kenya-tailored empirical inquiry to contextualize these variables and forge actionable insights for devolved fiscal resilience. However, the findings were based in Tanzania, not applicable to Kenyan county governments. The current study aims to assess the moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue by Kenyan county governments.

The study conducted by Wagana in 2017 investigated the moderating effect of county revenue policy on the implementation of e-government in Kenya, involving a substantial sample of 2,794 county government officials from all 47 counties. Employing stratified and simple random sampling techniques, the research aimed to understand how revenue policies influence the effectiveness of e-government initiatives. The findings revealed that e-government did not significantly moderate the relationship between governance decentralization and service delivery, suggesting that simply implementing e-government systems may not be sufficient to enhance service delivery in a decentralized governance framework. Furthermore, the study pointed out a notable gap in existing research regarding the moderated mediation effects of technological infrastructure and governance frameworks on the relationship between public financial management practices and the generation of own-source revenue in selected county governments in Kenya. Recognizing this gap, the current study aimed to delve deeper into these dynamics, potentially offering insights that could improve public financial management and revenue generation strategies in the context of Kenyan county governments.

The study by Owuori, Ngala, and Obwatho (2021) aimed to investigate the moderating effect of governance principle application on the mediation effect of technological capability on the relationship between management practices and service sustainability of water companies in Kenya. The study was grounded in the Sustainability theory and supported by the theory of constraints, general systems theory, and McGregor's Theory X and Y. The researchers adopted a positivist philosophy and employed a cross-sectional survey design, with a pilot test conducted on 8 respondents from 4 categories of water service providers (WSPs). The quantitative data was analyzed using the Statistical Package for Social Sciences (SPSS version 22). The study revealed that there was a statistically significant moderating effect of governance principle application on the mediation effect of technological capability on the relationship between management practices and service sustainability. The joint effect of governance principle application and technological capability was higher and significant compared to the individual effect of the variables. The findings also showed that when the interaction term was introduced, it indicated a significant relationship, suggesting that governance principle application moderated the relationship between technological capability and service sustainability of water companies in Kenya (moderated mediation). The study concluded that the introduction of governance principle application had a buffering moderating effect on the relationship between technological capability and the relationship between management practices and service sustainability. The researchers recommended that governments and water sector stakeholders should move beyond infrastructure development and ensure water service providers receive capacity building with a focus on governance, technical capacity, and information provision. Additionally, the study concluded that training community members on financial management is critical to guarantee transparency and accountability of revenue and expenses. The adoption of sustainability theory was found to enable project managers and the community to maintain and sustain project or program outcomes through the utilization of their own resources and assets, without compromising the enjoyment of such benefits for future generations. The foregoing study contextually examined service sustainability of water companies in Kenya though conceptually has some variables almost similar to the current study namely management practices as independent variable, governance principle as moderator and technological capability as mediator. The current study will examine the moderating effect of technological infrastructure on the mediation effect of governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

The study by Kirer, G. (2024) aimed to explore the relationship between agency revenue collection and own-source revenue targets in selected county governments in Kenya, with a focus on automation of revenue collection as a moderating factor. Specifically, the study sought to assess the competencies of revenue collectors, stakeholder engagement, regulatory compliance, revenue management, and the moderating effect of revenue collection automation on the relationship between agency revenue collection and own-source revenue targets. The research was anchored on Agency Theory, New Public Management Theory, and Resource-Based View Theory. A cross-sectional study design was utilized, targeting 708 employees from six selected county governments. The study employed purposive sampling to select all 24 county revenue administration executives and used stratified random sampling to select revenue officers. A sample size of 284 was determined using the Yamane formula. Primary data was collected through structured questionnaires, while secondary data on actual own-source revenue collected was extracted using a data collection tool. Quantitative data was analyzed using descriptive statistics such as frequencies, means, and standard deviations, while inferential statistics were generated through multiple and moderated regression analyses. The findings revealed that the competency of revenue collectors, stakeholder engagement, regulatory compliance, and revenue management significantly impact own-source revenue targets. Additionally, revenue collection automation was found to significantly moderate the relationship between stakeholder engagement and own-source revenue targets. However, automation did not significantly moderate the relationships between own-source revenue targets and other factors such as the competency of revenue collectors, regulatory compliance, and revenue management. The study concluded that county governments should focus on enhancing their agency revenue collection systems by improving the capacity of revenue collectors, fostering stakeholder engagement, ensuring robust regulatory compliance, and strengthening revenue management practices. Furthermore, the strategic integration of revenue collection automation should be prioritized to complement and reinforce these critical factors in improving own-source revenue (OSR) performance. This study aligns with the current research, as both address strategies for improving own-source revenue generation by county governments in Kenya, with a particular emphasis on automation as a moderating variable. Similarly, the current study will explore the moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue in Kenyan county governments. Additionally, the current study will expand to examine the

moderated mediation effect of technological infrastructure and governance frameworks on this relationship.

2.3 Summary of Research Gaps

The review of the above studies reveals several conceptual, contextual, and methodological gaps to be filled by the current study. At the contextual level, most of this research has been carried out in other countries and largely by private agencies unlike on public service delivery agencies. Additionally, other studies investigated fewer variables or variables that are different from those that this study focused on. The summary of the research gaps has been detailed in Table 1.

Table 1: Summary of Research Gaps

Authors	Area of study	Methodology	Findings	Research gaps	Current Study
Taek, et al., (2020)	Management of local own-source revenue in the Belu District government in Indonesia	Used the interpretive paradigm to uncover the aims and objectives of the informants and used the Husserl phenomenology approach to explain the phenomenon	The results of the study revealed that the informants interpreted the management of local own-source revenue as duties and responsibilities related to the management of Regional Original Revenues including the management of regional taxes whose revenue always fluctuates due to non-compliance of taxpayers	The study focused on the context of Belu District government in Indonesia -Conceptually the study looked at management of local own-source and generation of the revenue	Contextually the current study will be based on 11 best performing counties in own revenue generation in Kenya. Conceptually the study will evaluate public financial management practices on Own Source Revenue
Ochuodho and Ngaba (2020)	The influence of Integrated Financial	Data collection was through questionnaire	The study found out that full usage of Integrated	Contextually the study was based on only one county	The current study will be based on 11 best performing counties in own

Authors	Area of study	Methodology	Findings	Research gaps	Current Study
	Management Information System, revenue diversification, internal control and employee motivation on financial performance of Kisumu County	with the help of seven research assistants. Descriptive statistics assisted in quantitative analysis. Qualitative data was analysed through application of content analysis.	Financial Management Information System, revenue diversification; internal control and employee motivation have strong influence on performance of revenue collection of the County Government of Kisumu	(Kisumu) thus can't be generalized. Conceptually the study addressed a direct relationship between independent and dependent variable	revenue generation in Kenya. Conceptually the current study will examine the relationships on independent, mediating, moderating and dependent variables
Wakwabi, et al., (2023)	The mediating role of local government delivery system in the relationship between local governance and financial distress of local governments in Uganda.	study design methodology was correlational and cross-sectional	Government delivery system mediates the relationship between governance and financial distress.	Contextually the study was based in Uganda and conceptually examined the local government delivery system, local governance and financial distress	The current study will examine county governments in Kenya for ease of generalization. Conceptually the current study will examine the relationships on public financial management practices technological infrastructure, governance framework and Own Source Revenue

Authors	Area of study	Methodology	Findings	Research gaps	Current Study
Ndakalu (2022)	The employment of integrated approaches and growth of revenue collection in Kakamega County, Kenya	A descriptive case study design was used	The findings indicated that there are inadequate revenue policies required to support revenue administration, property rating, trade licensing and public participation.	The study focused on the context of Kakamega County thus, the findings are not able to trace and do a comparison of the forty-seven (47) county governments in Kenya.	The current study will be carried out in the eleven (11) county governments in Kenya and thus generalizable. Conceptually the current study will examine four salient variables on the public finance management practices technological infrastructure, governance framework and Own Source Revenue by county governments in Kenya, which the previous studies did not test for
Mbau, et al., (2020)	The effect of public governance on the relationship between fiscal decentralization and performance of County Governments in Kenya between the years 2013-2018	Multiple regression and correlation analysis were used to estimate both the direct and interaction effects of the parameters of the model.	Results indicate that Public Governance had a moderating influence on the relationship between fiscal decentralization and the performance of county governments in Kenya	The conceptual indicators of the study were; public governance, decentralization and Performance	The current study will examine technological infrastructure as a moderating variable in the relationship between public finance management practices and own-source revenue collection by county governments in Kenya which the previous studies did not test for

Authors	Area of study	Methodology	Findings	Research gaps	Current Study
Jepkoech (2021)	The operational determinant s and revenue collection efficiency in county government of Nandi, Kenya	The study adopted a descriptive survey research design	The study found that the determinants of staff competency, automation, internal control, effective taxation system and public awareness had a positive and significant effect on revenue collection efficiency	“The study focused on the context of Nandi county government and thus, the findings are not able to trace and do a comparison of the forty-seven (47) county governments in Kenya. The study conceptualized two variables namely; operational determinants and revenue collection efficiency	The current study will conceptualize four variables namely public finance management practices, technological infrastructure, governance framework and Own Source Revenue The current study will be a descriptive study and be contextualized in 11 counties in Kenya
Donald, Guyo and Moronge (2020)	The moderating effect of public participation on the relationship between political and economic relations on service delivery of county governments in Kenya	The target population of the study was 2,061 county government officials from all the 47 counties in Kenya. Quantitative data was analyzed using descriptive and inferential analysis	Public participation had a positive and significant moderating effect on the relationship between inter-governmental relations and service delivery of county governments in Kenya	The study conceptualized 3 variables; public participation as the moderating variable and inter-governmental relations as independent variable and service delivery as dependent variable.	The current study will conceptualize four variables namely public finance management practices, technological infrastructure as a moderator, governance framework as a mediator and Own Source Revenue as a dependent variable

Authors	Area of study	Methodology	Findings	Research gaps	Current Study
Chacha, Nyangau and Omare (2020)	the moderating effect of government policy on the relationship between revenue collection practices and financial accountability of Rorya district council in Tanzania	The study used cross-sectional survey research design. The target population of 760 Rorya District council members was used. Stratified sampling technique was used to determine the sample size of 288 respondents	there was a negative relationship between cess collection and financial accountability which was statistically significant	The study was based on Rorya district council in Tanzania. The study variables were government policy as moderator, revenue collection practices and financial accountability	The current study will assess the moderated mediation effect of technological infrastructure and governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.
Kirer, George (2024)	The relationship between agency revenue collection and Own Source Revenue target among selected county governments in Kenya with automation of revenue collection as a moderating variable	A cross-sectional study design was adopted by this study, targeting a population of 708 employees working in six selected county governments. All the 24 county revenue administration executives were selected using purposive sampling, while the stratified random sampling technique was	Results indicate that competency of revenue collectors; stakeholder engagement; regulatory compliance; and revenue management have a significant effect of Own Source Revenue target. Revenue collection automation was also found to significantly moderate the relationship between Own Source Revenue target and stakeholder engagement.	Conceptually, the study didn't examine governance framework as a moderator, rather the researcher has regulatory compliance as independent variable that is operationalized by policies and revenue collection legislation	The current study has conceptualized governance framework as a moderator support by four indicators namely; Constitution of Kenya 2010, Public Finance Management Act 2012, Public Procurement and Asset Disposal Act 2015, International Public Sector Accounting Standards (IPSAS). The study will examine the mediating effect of governance framework on the relationship between public

Authors	Area of study	Methodology	Findings	Research gaps	Current Study
		employed in sampling revenue officers.			financial management practices and own-source revenue in selected county governments in Kenya.
Owuori, Ngala, and Obwatho (2021)	Moderating effect of governance principle application on the mediation effect of technological capability on the relationship between management practices and service sustainability of water companies in Kenya	This study employed a cross-sectional survey design. The pilot test was carried out on 8 respondents from the 4 categories of the Water Service Providers (WSPs).	The study revealed that there was a statistically significant moderating effect of governance principle application on the mediation effect of technological capability on the relationship between management practices and service sustainability.	Contextually the study examined the sustainability of water companies in Kenya though conceptually has some variables almost similar to the current study namely management practices as independent variable, governance principle as moderator and technological capability as mediator.	The current study will examine the moderating effect of technological infrastructure on the mediation effect of governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya

2.4 Research Hypotheses

To achieve the study objectives, the study hypothesized that public finance management practices influence own-source revenue collection by county governments in Kenya. It further hypothesized that the relationship is mediated by governance framework and further moderated by technological infrastructure. In addition, the study hypothesized that there was no significant moderated mediation effect of technological infrastructure and governance framework in the

relationship between public finance management practices and own-source revenue collection by county governments in Kenya.

The null hypotheses are presented below;

HO₁: There is no significant relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

HO₂: There is no significant mediating effect of governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

HO₃: There is no significant moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

HO₄: There is no significant moderated mediation effect of technological infrastructure and governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

2.5 Conceptual Framework

The conceptual framework is a pictorial representation that shows the relationship between independent variables and the dependent variable. The researcher conceptualized the relationship between variables under study and showed the relationship graphically or diagrammatically. The conceptual framework is the foundation on which the entire study is based. In developing the conceptual framework for the study depicted in Figure 1, the following variables guided the design of the study.

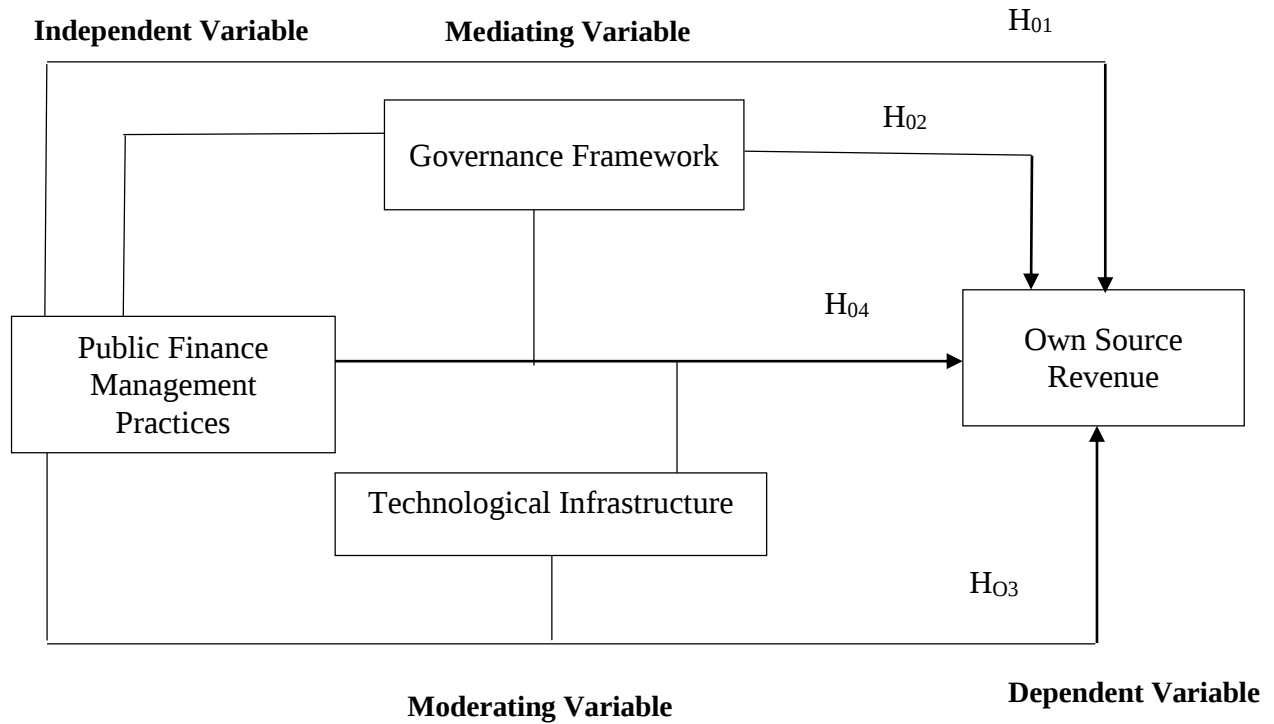


Figure 1: Conceptual Framework

2.6 Measurement and Operationalization of Study Variables

The table below indicates the study variables namely, public financial management practices, governance framework, technological infrastructure, Own Source Revenue and their respect indicators adopted to operationalize this study. The study used an ordinal 5-point Likert scale to measure Own Source Revenue (OSR) indicators namely OSR collected, the growth rate of OSR, and the share of OSR in total revenue as a strategic methodological choice to operationalize OSR not as a raw financial figure but as a perceived outcome of administrative performance and effectiveness. This approach focuses the inquiry on evaluation and perception, which aligns with assessing “practices”; captures essential context and nuance that raw numbers would miss; offers a practical solution to challenges of data access and reliability; and standardizes all variables into a consistent format suitable for the intended statistical analyses. Accordingly, the study does not measure OSR directly, but rather elicits expert judgment on the success and adequacy of OSR performance providing a more direct and meaningful indicator of the effectiveness of Public Financial Management practices.

Table 2: Operationalization of Study Variables

Variables	Indicators	Measure ment Scale	Questionnaire (Section & Question Number)	Tools of Analysis
Public Finance Management Practices	• Financial Planning Practices • Internal Control Practices • Public Finance Procurement Practices • Revenue Mobilisation Practices	Ordinal Scale 5 Point Likert type	Section-B	Frequencies, percentages, Correlation and Multiple regression Analysis
Governance Framework	• Constitution of Kenya 2010 • Public Finance Management Act 2012 • Public Procurement and Asset Disposal Act 2015 • International Public Sector Accounting Standards (IPSAS)	Ordinal Scale 5 Point Likert type	Section-C	Frequencies, percentages, Correlation and Multiple regression Analysis
Technology Infrastructure	• Mobile Payments System • Online Response System • Integrated Financial Management Information System • Automation of revenue collection	Ordinal Scale 5 Point Likert type	Section-D	Frequencies, percentages, Correlation and Multiple regression Analysis
Own Source Revenue	• Quantity and Growth • Composition and Diversification • Efficiency and Effectiveness • Performance and Sustainability	Ordinal Scale 5 Point Likert type	Section-E	Frequencies, percentages, Correlation and Multiple regression Analysis

2.7 Chapter Summary

This chapter discussed the theories and concepts that describe the independent and dependent variables. The theories assessed were the New Public Management (NPM) theory, Institutional theory, Public choice theory and Technology Acceptance Model. The theories reviewed were then analysed for relevance to specific variables. The chapter similarly explored the conceptualization of the independent, mediating, moderating and the dependent variables by examining the relationships between the four variables. Consequently, an empirical review was conducted in which past research; local, regional, global were examined according to the following measures; title, scope, concept, context and methodology resulting into a critique. From these critiques the research gaps were then identified.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter covers the procedures and the methods to be used in the selection of the sample for analysis up to the data analysis. This includes the philosophy and the design of the research, the sample and the sampling procedure, data collection methods, diagnostic tests operationalization of variables as well as data analysis techniques.

3.1 Research philosophy

A research philosophical argument is a theoretical framework that leads a researcher into picking the research methodological path. It represents a vision that influences the research technique. The philosophies include positivism or phenomenology (Cazeaux, 2017). To help the researcher decide which approach to adopt and why, an appropriate philosophical approach must be used (Sudeshna & Datt, 2016). Therefore, many paradigms have been proposed (Candy, 1989), and they all can be grouped into three main taxonomies, namely: Realism, Interpretivism and Positivism (Kivunja & Kuyini, 2017). Positivism research paradigm which is directly related to the notion of objectivism was utilized in this study. Positivism is from logically structured review and adopts the philosophical stance of the natural scientist, that is by working with observable social reality and that the end product of such research can be law-like generalizations similar to those produced by the physical and natural scientists. Positivism supports the view that knowledge gained through observation and measurement is trustworthy. The role of the researcher in positivism is limited to the collection, analysis and interpretation of data objectively. The Positivist paradigm is usually validated by applying four criteria namely, internal validity, external validity, reliability, and objectivity (Prochaska, et al., 2020). Research in these types of studies normally depends on quantifiable observations that lead to statistical analyses (Collins, 2018). The study took the quantitative approach drawn from the positivism research philosophy (Saunders et al., 2019).

This study used positivist philosophy to effectively accomplish its aims. Positivism was the most appropriate technique for this research due to the following reasons: the study was hypothesis-driven, and this methodology aligned well with the principles of positivism. The study used survey methodology to effectively reach a diverse and geographically dispersed population. Positivism is suitable for assessing the reactions of a substantial number of subjects,

namely the chosen county government officials, who serve as officials and representatives of the broader population of county government management. The study used quantitative methods for collecting and analysing data (Saunders et al., 2014).

3.2 Research design

A research design is the strategy for a study and the design by which the strategy was implemented. It is a design on how one undergoes the answering of research questions (Saunders et al., 2012). The purpose of study design is to facilitate the evidence obtained and to answer the research questions unambiguously (Cooper & Schindler, 2014). This study adopted a descriptive research design, which focuses on describing phenomena associated with a population or estimating the proportion of the population exhibiting certain characteristics. This design addresses important questions like Who, What, When? and the relationship between variables (Cooper & Schindler, 2014). It helps understand group characteristics, systematically reflect on aspects of a given situation, and provides ideas for further research and investigation. It also helps make simple decisions and addresses ethical issues that may arise in the research process. This study would benefit from a descriptive design as it relates; develop research objectives, design data collection methods, select samples, collect data and analyze results.

3.3 Target Population

Population refers to a group of individuals, objects, or cases with observable features from which the researcher generalizes the study findings (Bhattacharjee, 2012). The target population for the study was the eleven (11) county governments in Kenya and was drawn from the Auditor General report (GoK, 2023) as presented in Table 3. The unit of analysis for study was 983 county officials that consisted of 884 accounting officers and 99 directors from county treasuries in 11 counties: Nairobi, Mombasa, Kisumu, Kiambu, Nakuru, Narok, Machakos, Kakamega, Laikipia, Uasin Gishu, and Meru County. These were the top eleven counties in local revenue collection during 2022/2023 financial year as per the report of the Office of Controller of Budget.

The primary goal of this study is not to diagnose the causes of failure across all 47 counties, but rather to identify, understand, and codify the specific Public Financial Management (PFM) practices that lead to success. By focusing exclusively on the 11 counties that are demonstrably

outperforming their peers, the study adopts a "positive deviance" framework, which is a powerful approach for identifying solutions to complex problems by studying those who succeed against the odds (World Bank, 2024). This research design, a form of purposive sampling, is chosen when the researcher wishes to gain deep understanding and insights from a specific, information-rich group rather than seeking statistical generalization (Saunders et al., 2023).

The rationale for this approach is to generate transferable insights. By meticulously dissecting the successful PFM machinery of the top 11 counties, the study aims to produce a high-fidelity blueprint for success. This blueprint can then be used to inform targeted policy recommendations, capacity-building programs, and administrative reforms for the 36 counties that are striving to improve their OSR performance. The study, therefore, seeks to answer the question, "What does success look like and how can it be replicated?", which is arguably more valuable for effective policymaking and institutional strengthening than simply restating the reasons for failure (World Bank, 2024).

Table 3: Target population distribution

County	Category of County Respondents					Total
	Number of County Assembly Members	Number of County Public Service Members	Number of Board	Number of Chief Officers per county	Number of Directors per county	
Nairobi	127	5		11	11	154
Mombasa	45	5		11	10	71
Kisumu	49	5		11	8	73
Kiambu	87	5		11	10	113
Nakuru	74	5		11	10	100
Narok	47	5		11	8	71
Machakos	59	5		11	8	83
Kakamega	87	5		11	10	113
Laikipia	23	5		8	6	42
Uasin Gishu	44	5		11	8	68

County	Category of County Respondents				
	Number of County Assembly Members	Number of County Public Service Members	Number of Chief Officers per county	Number of Directors per county	Total
Meru	69	5	11	10	95
TOTAL	711	55	118	99	983

Source: Human Resource Ministry of Devolution & National Planning (2023)

3.4 Sampling Frame

According to Kothari (2004), it defines a sampling frame as a list of population from which a sample is drawn. It is the source material or device from which list of all elements within a population that can be sampled is drawn and may include individuals, households or institutions. It's a published list with a set of directions for identifying a population (Zikmund et al., 2013). A sampling frame facilitates formation of a sampling unit that refers to one member of a set of entities being studied which is the material source of the random variable (Bailey, 2008). For this study, the sampling frame was drawn from the lists of accounting officers and directors in county treasuries obtained from the human resource departments of the respective county governments.

3.5 Sampling Technique and Sample Size

A sample is a subsection of the target population used in a study to represent the entire population (Fowler and Lapp, 2019). Quantitative studies typically use probability sampling, while qualitative studies often use non-probability techniques. The sample size is the number of individuals or units included in a study, chosen based on the study's objectives, population makeup, accuracy level, anticipated reaction rate, number of variables, and whether it's a quantitative or qualitative study. For this study, the sample size of the study was determined using Yamane (1967) formula, as follows.

$$n = \frac{N}{1 + Ne^2}$$

Where: n is the sample size; N is the population size - 983; e is the margin error – 5%. Thus,

$$n = \frac{983}{1 + 983(0.05)^2} = 284.31 = 284$$

The final sample size of the study comprised of 284 participants

Stratified proportionate random sampling was employed to select the respondents for each county from the four categories (stratas) of county respondents for this study. The four categories (stratas) are the County Assembly, County Public Service Board, Chief Officers and County Directors. Stratified sampling divides the population into subgroups that are more homogeneous than the entire population (Creswell, 2014). The subgroups are also called strata and selection is normally undertaken from each individual stratum (Creswell, 2014). Proportionate sampling was used to proportionally allocate specific number of participants in each county and then apply random sampling to select 284 county respondents proportionally allocated in each category from the eleven (11) counties who will participate in the study as shown in Table 4. To select the number of participants per county category the following formula was used:

$$\begin{aligned}
 &\text{Respondents per county category} \\
 &= (\text{Total number of staff per Category}) \\
 &\quad / (\text{Total number of staff in all 11 counties}) \\
 &\quad * 284
 \end{aligned}$$

Table 4: Sample Size

County	Category of County Respondents				Total
	Number of County Assembly Members	Number of County Public Service Board Members	Number of Chief Officers per county	Number of Directors per county	
Nairobi	37	1	3	3	44
Mombasa	13	1	3	3	21
Kisumu	14	1	3	2	21
Kiambu	25	1	3	3	33
Nakuru	21	1	3	3	29
Narok	14	1	3	2	21
Machakos	17	1	3	2	24
Kakamega	25	1	3	3	33
Laikipia	7	1	2	2	12
Uasin Gishu	13	1	3	2	20
Meru	20	1	3	3	27
TOTAL	205	16	34	29	284

3.6 Data collection and Instruments

Data collection is a process of gathering specific information to prove or refute facts in a study (Kombo & Tromp, 2011). A review of the literature revealed that self-administered questionnaires, interviews and focus group discussions were the most frequently used data collection methods. Data was collected from primary sources. Primary quantitative data was collected by using structured questionnaires. Drop and pick technique was used to administer the structured questionnaires to and from the study respondents. The questionnaire was guided by the study objectives. The closed questions were answered using a 5-Point Likert scale where (5- *Strongly agree*, 4- *Agree*, 3 – *not sure*, 2- *Disagree*, 1- *strongly disagree*) (See Appendix II). The most positive got five points and the most negative one point. The questionnaires were administered by the researcher and research assistants using a google forms for the target group. The period given for collecting the filled questionnaires was set to two and three weeks.

3.7 Pilot Testing

According to Cooper, Schindler and Sun (2006) pilot test is used to establish the accuracy and appropriateness of the research design and instrumentation. This was informed by the fact that the results of the current research should remain reliable and valid as much as possible. The study used 21 county treasury officials from Uasin Gishu County government to carry out the pilot study of which these are part of the sampled respondents. This study adopted 10% of the sample size. According Hertzog (2018), pilot studies typically utilize a sample size between 1% and 10% of the total sample size intended for the full study. Although 10% is a frequently referenced guideline, it is crucial to recognize that such benchmarks may not always suffice, particularly when evaluating the adequacy of instrumentation or making statistical estimates for larger studies. The respondents who participate in the pilot testing of the research instruments will be exempted from being respondents in the main study to eliminate biasness in the research results based on prior knowledge of the contents in the research instrument. The study used purposive sampling in the selection of the respondents, which according to Orodho (2023), it ensures that there is identification and selection of information-rich cases related to the phenomenon of interest in the study. To check the content validity of the research instruments, the study sought an expert opinion through a focus group discussion.

3.7.1 Validity

Saunders, Lewis, and Thornhill (2019) assert that the validity of a study is influenced by the measures employed and the precision of the research instruments. In quantitative research, validity refers to how effectively a measurement tool fulfills its intended purpose (Thatcher, 2010). Conversely, in qualitative research, it involves the process by which a researcher confirms the authenticity of the findings (Creswell, 2013). Content validity pertains to how well the instrument addresses the subject matter under investigation. To ensure this, the study's test items were reviewed by experts, including research supervisors, financial colleagues, and specialists in public finance management. A comprehensive literature review was also conducted to examine the relevant variables, serving as a method to validate content.

To establish face validity, the researcher reviewed the questions to ensure they aligned with the intended objectives. Consistency in the instructions provided to participants was maintained, and the questions were crafted in clear language for better understanding by respondents (Taherdoost, 2016). The experts involved in verifying content validity also critically assessed the measurement items used in the study. Validity can be evaluated based on the extent to which one measure correlates with another. This was assessed using regression analysis and discriminant analysis. Correlation analysis was employed to explore concurrent and predictive validity, revealing how measures relate to one another and confirming previously established relationships.

To evaluate the construct validity of the instrument, factor analysis was conducted on the variables. According to Othman et al., (2019) construct validity refers to how well a test measures the intended variable. Following the recommendations of Koh and Nam (2020), Principal Component Analysis (PCA) was performed with varimax rotation. Items with cross-loadings less than 0.30 were discarded, while those meeting the minimum threshold were deemed acceptable for inclusion in the study. The factor analysis produced several statistical outputs, including the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, Bartlett's Test of Sphericity, total variance explained, and the rotated component matrix.

3.7.2 Reliability

Reliability is the consistency of measurement of the degree to which a measurement is free of random or unstable error (Cooper & Schindler, 2014). Testing reliability in research is essential in establishing the quality of the study (Kapoulas & Mitic, 2012). The purpose of reliability

is to minimize biases in the study. Reliability focused on the degree to which empirical indicators were consistent across two or more attempts to measure the theoretical concept. A high measure of reliability implies that if future researchers were to undertake the research process independently, they would obtain similar results (Saunders, et al., 2014). For measuring reliability, the study used Cronbach Coefficient (Alpha value) to evaluate the internal consistency of the data collection tool. Cronbach alpha is considered the most important reliability index and considers the number of variables/items of the instrument, and the correlation between the variables. The range of values is between 0 and 1.0. A low value of alpha could be due to a low number of questions, poor interrelatedness between items or heterogeneous constructs. A Cronbach's coefficient of greater than 0.7 suggests that the instrument is accurate in measuring the variable (Thao et al., 2022). This study adopted Cronbach's coefficient of 0.7 and above.

3.8 Data Processing and analysis

The received questionnaires were examined to confirm that they are correctly filled and if they are reliable. Testing for completeness, consistency, and authenticity of the information provided was assessed and the data triangulated using SPSS v26.0. Descriptive statistics analysis was conducted to provide an overview of the sample in terms of means, medians, standard deviations, variance, percentages and frequencies among others. Inferential statistics will also be used to measure the causal relationship between the study variables. This involved Correlation and regression analyses.

Correlation analysis was used to test the strength of the relationship between the variables. Correlation coefficient r was used to test for correlation. The value ranges between +1 to -1 where the sign signifies the direction of the relationship. A correlation between 0.81 and 1.00 is considered strong, between 0.41 to 0.6 moderate between 0.21 to 0.40 weak and between 0.00 to 0.20 no relationship. The coefficient would only be true in situations where the significance level will be $p < 0.05$.

Regression analysis, on the other hand, was carried out using bivariate and multivariate linear regression models to determine the relationship between independent predictors and the dependent variable. That is the causal influence the independent variables have on the dependent variable which is tested by the coefficient of determination (R^2), F and t statistics

and beta coefficients. The decision rule is that when the p-values of the R^2 , F and t statistics and beta coefficients are less than 0.05, then the relationship between the two variables is considered significant. Results are presented in tables, diagrams, and charts. Below are the statistical representations of the models.

3.9 Diagnostic Tests

Analysis of diagnostic test involved a test for the assumption of Classical Linear Regression Model (CLRM). This ensured that data collected is within the acceptable parameters of linear regression. The four assumptions tested include, normality, multicollinearity, heteroscedasticity and linearity tests.

3.9.1 Normality

Normality is important in knowing the shape of the distribution and helps to predict dependent variables scores (Paul & Zhang, 2010). Tests of normality were performed to determine whether the data is well modelled and normally distributed (Gujarati, 2009). According to Ghasemi and Zahediasl (2012), the variables are supposed to be roughly normally distributed especially if the results are to be generalized beyond the sample. In this respect, the study used Kolmogorov-Sminorv tests, where if the tests of normality yield a figure of less than 0.05, it means that the data is not normally distributed.

3.9.2 Multicollinearity

Multicollinearity of variables in this study was tested by using the tolerance value with a tolerance level of more than 0.1 and the variance inflation factor (VIF) with a tolerance level of less than 10 (Gunst & Mason, 2018). During the diagnostic testing of the collected quantitative data, a test of multicollinearity was conducted to determine if any of the variables under consideration were significantly correlated with each other. VIF ranging from 1 to 10 indicate absence of multicollinearity while presence of multicollinearity is detected when VIF is more than 10 or less than 1 (Lindner, Puck & Verbeke, 2020). To evaluate this correlation, the Variance Inflation Factor (VIF) was utilized. If the VIF values surpass 10 (or 5 when using a more conservative approach) then there is a strong likelihood of multicollinearity, which can have an adverse effect on the research (Newbert, 2018).

3.9.3 Heteroscedasticity

Heteroscedasticity means a situation in which the variance of the dependent variable varies across the data, as opposed to a situation where Ordinary Least Squares, OLS, makes the assumption that $V(\epsilon_j) = \sigma^2$ for all the j , meaning that the variance of the error term is constant (homoscedasticity). Heteroscedasticity complicates analysis because many methods in regression analysis are based on an assumption of equal variance (Park, 2015). Hence to test for normality and heteroscedasticity of regression residuals, this study used SPSS version 26.0 software. To test for heteroscedasticity, the Breusch and Pagan (1979) and the Modified Wald test (Baum, 2001) was used. The null hypothesis of this study suggests that the error variance is homoscedastic, as indicated by a p-value greater than 0.05.

3.9.4 Linearity

Linearity refers to the consistent slope of change that represents the relationship between an independent variable and a dependent variable. Perhaps the easiest and clear-cut one, yet rigorous, is the deviation from linearity test. If the significant value for deviation from linearity is less than 0.05, the relationship between independent and dependent variables is not linear, and this presents problems during modelling. Mark (2003) also states that issues of linearity can also be fixed by removing outliers.

3.10 Empirical Models

An empirical model was employed to test the statistical significance of the relationship between public finance management practices and own-source revenue collection by county governments in Kenya. To facilitate the application of the regression model, weighted averages of the four constructs for the independent variable was computed using the following equation:

$$PFMP = \sum(W_1 + W_2 + W_3 + W_4) / 4 \dots\dots\dots i$$

Where:

PFMP = public finance management practices variable (Composite index of Financial Planning Practices, Internal Control Practices, Public Finance Procurement Practices and Revenue Mobilisation Practices)

The regression model for the study;

$$OSRC = \beta_0 + \beta_1 PFMP + \epsilon \dots\dots\dots (1)$$

Where:

OSRC = Own Source Revenue; PFMP = public finance management practices; β_0 = Constant; β_1 = Beta coefficients; ε = Error term.

3.10.1 Mediation Model

The mediating effect was tested using a four-step approach as outlined by Baron and Kenny (1986) Perspective Where regression analysis is conducted, and the significance of coefficients is tested at each step.

Step 1: A Regression analysis with *PFMP* predicting *OSRC*

$$OSRC = \beta_0 + \beta_1 PFMP + \varepsilon \dots \dots \dots (2)$$

Step 2: A Regression analysis with *PFMP* predicting *CRP*

$$CRP = \beta_0 + \beta_1 PFMP + \varepsilon \dots \dots \dots (3)$$

Step 3: A Regression analysis with *GF* Predicting *OSRC*

$$OSRC = \beta_0 + \beta_2 GF + \varepsilon \dots \dots \dots (4)$$

Step 4: A Regression analyses with *PFMP* and *GF* Predicting *OSRC*

$$OSRC = \beta_0 + \beta_1 PFMP + \beta_2 GF + \varepsilon \dots \dots \dots (5)$$

Where: *OSRC* = Own Source Revenue; *PFMP* = public finance management practices; *GF* = Governance Framework; β_0 = Constant; β_1 , β_2 = Beta coefficients; ε = Error term

Where: $GF = \sum (W_5 + W_6 + W_7 + W_8 + W_9 + W_{10} + W_{11}) / 7 \dots \dots \dots ii$

GF = governance framework variable (Composite index of Constitution of Kenya 2010, Public Finance Management Act 2012 and Public Procurement and Asset Disposal Act 2015)

Steps 1-3 was used to establish that zero-order relationship existed among the variables. Situations where one or more of the relations is non– significant depicts no possibility of Mediation (Baron and Kenny, 1986). If they are significant relationships from step 1 through 3, one proceeds to step 4 where mediation is supported if the effect of *PFMP* remains significant after controlling *GF*. If *GF* is not significant when *PFMP* is controlled, there is full mediation, and if both *PFMP* and *GF* significantly predict *OSRC*, there is partial mediation.

3.10.2 Moderation Model

The model will be relied upon to check whether the prediction of a dependent variable, *OSRC*, from an independent variable, *PFMP*, differs across levels of a third variable Technology Infrastructure (*TI*) ” (Baron and Kenny, 1986). A moderating variable influences the relationship between predictors and outcomes, affecting the influence of the predictor variable.

Whisman and McClelland (2005) discuss moderation effects in the context of interaction between factors or variables, with the basic moderation model being a single regression equation. Where:

$$OSRC = \beta_0 + \beta_1 PFMP + \varepsilon \dots \dots \dots (2)$$

$$OSRC = \beta_0 + \beta_1 PFMP + \beta_3 TI + \varepsilon \dots \dots \dots (6)$$

OSRC = Own Source Revenue; *PFMP* = public finance management practices; *TI* = Technology Infrastructure; β_0 = Constant; β_1, β_3 = Beta coefficients; ε = Error term

Finally, model 7 was used to estimate and give the direction and effect of the moderator on the independent variable and the total effect (of the moderator) on the dependent variable by interacting the moderating variable and the independent variable. Thus,

$$OSRC = \beta_0 + \beta_1 PFMP + \beta_4 PFMP * TI + \varepsilon \dots \dots \dots (7)$$

OSRC = Own Source Revenue; *PFMP* = public finance management practices; *PFMP * TI* = public finance management practices x Technology Infrastructure; *TI* = Technology Infrastructure; β_0 = Constant; β_4 = Beta coefficient, ε = Error term

3.10.3 Moderated Mediating Model

To determine moderating effect of Technology Infrastructure on the mediating role of governance framework in the relationship between public finance management practices and Own Source Revenue by county governments in Kenya, Andrew Hayes (2013) model for Mediation, Moderation, and Conditional Process Analysis was adopted.

$$I = \beta_0 + \beta_1 PFMP + \beta_2 TI + \beta_3 GF + \beta_4 PFMP * TI + \varepsilon \dots \dots \dots (8)$$

$$OSRC = \beta_0 + \beta_1 PFMP + \beta_2 TI + \beta_3 PFMP * TI + \varepsilon \dots \dots \dots (9)$$

Where;

β_0 = Constants; *I* (Indirect Effect) = Own Source Revenue; *OSRC* (Direct effect) = Own Source Revenue; *GF* = governance framework; *TI* = Technology Infrastructure; *PFMP* = public finance management practices; *PFMP * TI* = Interaction; ε = Error term

Table 5: Summary of Research Objectives, Hypotheses and Empirical Models

Objectives	Hypothesis	Type of Analytical model	Interpretation
To determine the effect of public financial management practices on own-source revenue in selected county governments in Kenya	H₀₁ There is no significant relationship between public financial management practices on own-source revenue in selected county governments in Kenya	Simple Linear Regression $OSRC = \beta_0 + \beta_1 PFMP + \varepsilon$ Where: $OSRC$ = Own Source Revenue β_0 = intercept β_1 = regression coefficient of PFMP $PFMP$ = public finance management practices ε = error term	R^2 Coefficient of 1 indicates a perfect predictability of the model P-value ≤ 0.05 shows a significant Linear Regression between the variables. ANOVA F-test with p-value ≤ 0.05 shows that the model has predictive ability. VIF < 10, Tolerance level > 0 indicates no multicollinearity problems
To establish the mediating effect of governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.	H₀₂ There is no significant mediation effect of governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.	Multiple Regression i. $OSRC = \beta_0 + \beta_1 PFMP + \varepsilon$ ii. $CRP = \beta_0 + \beta_1 PFMP + \varepsilon$ iii. $OSRC = \beta_0 + \beta_2 GF + \varepsilon$ iv. $OSRC = \beta_0 + \beta_1 PFMP + \beta_2 GF + \varepsilon$ Where $OSRC$ = Own Source Revenue $PFMP$ = public Finance management practices GF = Governance Framework β_0 = Intercept β_1, β_2 = Coefficient ε = Error term	R^2 Coefficient of 1 indicates a perfect predictability of the model P-value ≤ 0.05 shows significant Regression between the variables. ANOVA F-test with p-value ≤ 0.05 shows that the model has predictive ability. VIF < 10, Tolerance level > 0 indicates no multicollinearity problems
To assess the moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.	H₀₃ There is no significant moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.	Multiple Regression $OSRC = \beta_0 + \beta_1 PFMP + \varepsilon$ $OSRC = \beta_0 + \beta_1 PFMP + \beta_3 TI + \varepsilon$ $OSRC = \beta_0 + \beta_1 PFMP + \beta_4 PFMP * TI + \varepsilon$ Where $OSRC$ = Own Source Revenue β_0 = Intercept β_1, β_4 = Coefficients $PFMP$ = public finance management practices TI = technological infrastructure	R^2 Coefficient of 1 indicates a perfect predictability of the model P-value ≤ 0.05 shows a significant Regression between the variables. ANOVA F-test with a P value of ≤ 0.05 shows that the model has predictive ability. VIF < 10, Tolerance level > 0 indicates no multicollinearity problems

Objectives	Hypothesis	Type of Analytical model	Interpretation
		$\varepsilon = \text{Error term}$	
To establish the moderated mediation effect of technological infrastructure and governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya	H₀₄: There is no significant moderated mediation effect of technological infrastructure and governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.	$I = \beta_0 + \beta_1 \text{PFMP} + \beta_2 \text{TI} + \beta_3 \text{GF} + \beta_4 \text{PFMP} * \text{TI} + \varepsilon$ $\text{OSRC} = \beta_0 + \beta_1 \text{PFMP} + \beta_2 \text{TI} + \beta_3 \text{PMP} * \text{TI} + \varepsilon$ Where; $\beta_0 = \text{Constant}$ $I = \text{Indirect Effect to Own Source Revenue};$ $\text{OSRC} = \text{Direct effect to Turnover intentions};$ $\text{OSRC} = \text{Own Source Revenue}$ $\text{GF} = \text{governance framework}$ $\text{TI} = \text{technological infrastructure}$ $\text{PFMP} = \text{public finance management practices}$ $\text{PFMP} * \text{TI} = \text{Interaction}$ $\varepsilon = \text{Error term}$	If the null of 0.000 does not fall in between the lower boundary (BootLLCI) and the upper boundary (BootULCI) of the 95% confidence interval, we infer that the indirect effect is conditional on the level of the moderator variable thus showing that the intervening variable is significantly related to dependent.

3.11 Ethical Considerations

The researcher adhered to ethical guidelines to avoid bias and fairness in the research process by obtaining approval from the Management University of Africa, a research permit from the National Commission for Science, Technology and Innovation (NACOSTI). Participants were guaranteed privacy, confidentiality, and welfare protection, ensuring no harm is caused to them.

3.11.1 Anonymity

The researcher prioritized the confidentiality of respondents' identities throughout the entire research process, including the presentation of findings. By ensuring that participants from the county governments provided voluntary consent, the researcher upheld ethical standards that respect the autonomy and free will of those involved. This commitment to confidentiality not only fosters trust between the researcher and participants but also encourages open and honest contributions, as respondents can engage in the study without fear of their identities being disclosed. Such practices are essential in maintaining the integrity of the research and

protecting the privacy of individuals, thereby enhancing the overall quality and reliability of the findings.

3.11.2 Informed consent

The researcher consulted respondents promptly and provided clear explanations about the study. Consent was sought voluntarily before questionnaires were filled, and respondents were informed of their right to withhold information they don't feel comfortable sharing. Informed consent protects respondents' rights, and moral principles governing data collection and survey are not violated. The researcher ensured the privacy of respondents throughout the research process, including during the presentation of findings and afterward, by not requiring participants to disclose their names or counties. This approach safeguarded their identities, allowing individuals to engage freely and openly in the study without concerns about their personal information being revealed.

3.11.3 Confidentiality

The researcher respected respondents' rights by maintaining confidentiality, avoiding public disclosure, and avoiding deception. Participants were only required to provide a summary of the information. Data collected were kept confidential, and the research was only used for fulfilling the requirements for the Doctor of Philosophy in management and leadership degree at the Management University of Africa. Accurate and complete references were made to prevent plagiarism.

3.11.4 Voluntary participation

Voluntary participation in a research study refers to the process by which individuals freely choose to participate without any form of coercion or pressure. It is an ethical principle that ensures the rights and autonomy of research participants are respected. The current study applied Informed Consent, Protection of Privacy and Confidentiality to ensure Voluntary participation.

3.12 Chapter Summary

This chapter discussed the methodology that was employed in studying the relationship between public financial management practices and Own Source Revenue by county governments in Kenya, taking note of the mediating role of governance framework in the said

relationship and the moderating effect of technological infrastructure on the relationship. The section detailed the research procedure that was adopted which includes: the philosophy of the research; the research design and research method used to answer the research questions; target population under study, the research tools used, the data collection methods; sample size, sampling procedure and the sampling technique that was adopted, data collection procedure, pilot testing, data analysis and presentation as well as the ethical issues that were considered.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents the findings of the investigation. The study focused predominantly on the effect of public financial management practices, governance framework and technological infrastructure on Own Source Revenue in selected county governments in Kenya. Response rate, demographic information, descriptive statistics, factor analysis, diagnostic tests, and inferential statistics were used to categorise the chapter. The data from the research were analysed, and the results were interpreted in light of the study's overall objectives.

4.1 Response Rate

The term "response rate" refers to the measurement of how many members of a sample are included in the final data sets of a study, as defined by Orodho (2009). It is calculated by dividing the number of completed interviews with respondents by the total number of respondents in the entire sample, which includes both respondents and non-respondents. In the current study, the data was collected from the county respondents who included the members of County Assembly, County Public Service Board, Chief Officers and County Directors.

Table 6: Response Rate

Questionnaire	Frequency	Percentage
Returned	251	88.4%
Non returned	33	11.6%
Total	284	100

The target population for this study comprised the top eleven counties in local revenue collection for the 2022/2023 financial year, as reported by the Office of the Controller of Budget. A sample size of 284 respondents was determined using Yamane's (1967) formula, drawn from a total of 983 potential respondents. To select participants, stratified proportionate random sampling was utilized, ensuring representation from each county across four distinct categories (strata) of county respondents for this research. The study's sample had 284 target respondents, of whom 251 questionnaires were accurately completed and returned, resulting in a response rate of 88.4%. The response rate in this research was considered suitable, along with Kothari's (2011) assertion that a response rate over 70% is judged adequate for a particular

study. A study conducted by Gall, Borg, and Gall (1996) has demonstrated that an 80% response rate is deemed excellent in quantitative research within the field of Social Sciences. Similarly, Fincham (2008) has corroborated this finding, stating that a response rate of 60% is considered appropriate in research. Additionally, Mangione (1995) has revealed that a response rate exceeding 85% is regarded as excellent for self-administered questionnaires. The response rate for this research was deemed to be commendable for further analysis, since it exceeded 80%.

4.2 Pilot Study Results

Pilot testing serves as an initial evaluation of the questionnaire to assess its effectiveness before launching the research project. This process offers valuable insights into how well respondents understand the questions posed, while also evaluating whether the instrument effectively addresses the research questions as designed. The questionnaires for this research were pilot tested on 21 county treasury officials from Uasin Gishu County government representing 10% of the accessible target population. Validity and reliability testing were included in the pilot tests.

4.2.1 Reliability Test Results

The notion of instrument dependability refers to the ability of the instrument to deliver measurements that remain consistent and stable over time. The aim of achieving dependability in research is to minimize errors and biases (Yin, 2013). To improve the dependability of the research instrument, an initial survey was carried out to evaluate and refine the clarity and coherence of the questionnaire before data collection began. This study employed Cronbach's Alpha (Cronbach, 1951) to measure the reliability of the proposed constructs. Known for its robustness and flexibility, Cronbach's alpha is a statistical tool used to assess the internal consistency or interrelatedness of items (Tavakol & Dennick, 2011). The alpha coefficient can range from zero, indicating no internal consistency, to one, which signifies complete internal consistency. As noted by Clarkson (2015) and Nunally (2018), an alpha value of 0.7 is considered the minimum acceptable level, while values of 0.8 and higher offer little additional benefit to the scale's reliability.

In analyzing the pilot study results, a Cronbach Alpha value of at least 0.70 was deemed acceptable for reliability (Sekaran & Bougie, 2013). Tashakkori and Teddlie (2010) further

clarify that an instrument is considered highly reliable if it achieves a Cronbach Alpha coefficient between 0.82 and 1.00, regarded as sufficiently reliable if it falls between 0.64 and 0.82, has low reliability if it ranges from 0.46 to 0.64, and is deemed unreliable if it is between 0.10 and 0.46. To assess the consistency of each scale (objective), Cronbach Alpha was calculated for every objective, determining whether the same results would be obtained if the research were conducted with the same respondents at a different time. For this study, the threshold of 0.70 for Cronbach Alpha was applied. The study questionnaire reliability results are presented in table 7.

Table 7: Reliability Results

Variable	Items	Cronbach Alpha	Remark
Public Finance management practices	53	0.920	Reliable
Technology Infrastructure	21	0.899	Reliable
Governance Framework	25	0.901	Reliable
Own Source Revenue	15	0.881	Reliable

The results in table 7 indicate that the Cronbach alpha coefficient for Public Finance management practices is 0.92. This suggests that the items used to measure the Public Finance management practices were reflective of a shared underlying trait, since these items have been used by other studies and then enhanced via iterative processes. The Cronbach's alpha coefficients for Technology Infrastructure, Government Framework, and Own Source Revenue were found to be 0.899, 0.901, and 0.881, respectively. These values suggest that the items within each variable construct were reflective of a common underlying disposition. The findings suggest that all constructs had good levels of dependability, as seen by their coefficient values. This suggests that each of the variables have a dependable index measure, hence confirming the instrument's reliability in gathering data.

4.2.2 Validity Test Results

To assess the validity of the study, the researcher employed factor analysis using principal component analysis to investigate the degree of variation among the related observed variables. The Varimax rotation method was utilized to bring the factor loadings closer to 1 or -1 for each variable, facilitating easier interpretation of the factors. This analysis enabled the identification and removal of any duplicate or outlier items. Factor analysis is a statistical technique aimed at uncovering a limited number of underlying dimensions or factors that can effectively

represent the relationships among interrelated variables. This method is commonly applied to quantify variables that cannot be directly measured, to simplify large datasets, and to formulate and test hypotheses.

In this study, factor analysis was conducted to evaluate the validity of the research instrument. The adequacy of the sample size was assessed using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. According to Yin (2014), the KMO measure serves as a statistical tool for determining the appropriateness of applying factor analysis. Essentially, the KMO measure helps to ascertain whether the collected data is adequate and suitable for executing inferential statistical tests such as factor analysis, regression analysis, and other related methods. The KMO statistic ranges from 0 to 1; a value of 0 indicates that the sum of partial correlations is significant compared to the total sum of correlations, suggesting that factor analysis may not be suitable due to a diffuse pattern of correlations. Conversely, a value close to 1 suggests that the correlation patterns are relatively compact, making factor analysis likely to produce clear and distinct factors.

To evaluate the appropriateness of the sample for the study, the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity were utilized. The KMO measure assesses the overall adequacy of the sample for factor analysis by examining the strength of the partial correlations among the variables. A KMO value closer to 1 indicates that the sample is suitable for factor analysis. Meanwhile, Bartlett's Test of Sphericity checks whether the variables in the dataset are sufficiently correlated to proceed with factor analysis (Field, 2000). A significant result from this test (typically $p < 0.05$) suggests that the correlations among the variables are strong enough to warrant further analysis. Together, these tests provide essential preliminary insights into the data's suitability for factor analysis. The results of the KMO and Bartlett's Test of Sphericity are presented in Table 8.

Table 8: KMO and Sphericity results.

Variable		Kaiser-Meyer-Olkin	Bartlett's Test of Sphericity		
		Measure of Sampling Adequacy.	Approx. Chi-Square	df	Sig.
Public	Finance	0.935	12058.803	1378	.000
management practices					

Variable	Kaiser-Meyer-Olkin	Bartlett's Test of Sphericity		
	Measure of Sampling Adequacy.	Approx. Chi-Square	df	Sig.
Technology Infrastructure	0.946	5538.817	210	.000
Governance Framework	0.924	6079.068	300	.000
Own Source Revenue	0.920	3895.750	171	.000

The results presented in Table 8 indicate a strong suitability of the sample for factor analysis in the context of examining the effects of public financial management practices, technological infrastructure, governance framework, and Own Source Revenue by county governments in Kenya. The Kaiser-Meyer-Olkin (KMO) measures for each variable are all above the recommended threshold of 0.70, with values ranging from 0.920 to 0.946. Specifically, public financial management practices scored 0.935, technology infrastructure scored 0.946, governance framework scored 0.924, and Own Source Revenue scored 0.920. These high KMO values suggest that the sample is adequate for conducting factor analysis, indicating that the variables are sufficiently correlated to justify the analysis. Additionally, Bartlett's Test of Sphericity results for all variables are statistically significant ($p < 0.001$), with chi-square values indicating strong correlations among the variables. This significance implies that the null hypothesis of no correlation among the variables can be rejected, further supporting the appropriateness of the data for factor analysis.

4.3 Factor Analysis

This section summarizes the findings from the factor analysis related to the constructs of Public Finance management practices, Technology Infrastructure, Governance Framework, and Own Source Revenue Variables. Confirmatory factor analysis (CFA) was conducted using Statistical Package for the Social Sciences (SPSS) version 28 to analyse quantitative data due to its user-friendly interface, comprehensive statistical capabilities, and data management features. To facilitate data reduction and identify the latent construct indicators that most effectively represent the research variables, principal axis factoring (PAF) and varimax rotation were employed. PAF was selected for its ability to deliver more accurate and reliable insights into the underlying structure of the variable group, considering the interrelationships among the observed variables (Tabachnick & Fidell, 2013).

The researcher utilized Kaiser's criterion, which emphasizes retaining eigenvalues greater than 1, as a key method for determining the optimal number of components to include in the analysis. In conjunction with this, researcher also employed Cattell's Scree test, a graphical method that helps visualize the eigenvalues of the components. By analyzing the resulting plot, researcher was able to identify the point at which the eigenvalues begin to level off, indicating the most appropriate number of components to retain. This dual approach ensures a more robust and reliable selection of components for further analysis, enhancing the overall validity of their research findings.

Utilizing both criteria was considered essential due to the possible unreliability of relying solely on one criterion for deciding how many components to keep (Tabachnick & Fidell, 2013). A variable was established to ensure that the proportion of total variance explained was equal to or greater than 45% ($\geq 45\%$). Only coefficients with an absolute value exceeding 0.4 were kept, while those below this threshold were discarded. According to Hair *et al.*, (2016) coefficient below 0.40 is considered low.

4.3.1 Factor Analysis for Public Finance management practices

A factor analysis was conducted on the statements related to Public Finance management practices. This concept was categorized into four distinct dimensions: Financial Planning Practices, Internal Control Practices, Public Finance Procurement Practices, and Revenue Mobilisation Practices. The research utilized factor analysis to explore the existence of related variables and to identify any redundant data that could be eliminated. This analysis facilitates the exploration of the structure of interrelationships by identifying and defining various components. The factor analysis process aimed to reduce the dimensions of the statements using the Statistical Package for the Social Sciences (SPSS) version 28 software. For this purpose, principal axis factoring and varimax rotation techniques were employed. The goal was to streamline the data and uncover the latent variable items that most effectively clarify the concept of Public Finance Management Practices.

According to Noora Shrestha (2021), the acceptable value of factor loading is generally considered to be 0.7 or greater. This threshold indicates that the observed variable significantly contributes to the latent factor it is intended to measure. Loadings at this level

suggest that the variable explains a substantial portion of the variance in the factor. In this procedure, factors with factor loading value below 0.7 were eliminated, resulting in the inclusion of only those components that exhibit great relevance and effect in the construction of variables. Further according to Noora Shrestha (2021), it is recommended to suppress coefficients with an absolute value below 0.4 during component analysis this suppresses the presentation of any factor loadings with values less than 0.4. This approach ensures that only items with substantial relevance and effect in variable creation are included. The process of extracting the components adhered to the Kaiser Criterion, which considers an eigenvalue of 1 or above as an indication of a distinct factor.

During this process coefficients with absolute value below 0.4 were suppressed, this yield to only those items with high significance and influence in variable formation. Njoroge (2012) suggested that during factor analysis coefficients with absolute value below 0.4 should be suppressed, this yield to only those items with high significance and influence in variable formation. The extraction of the factors followed the Kaiser Criterion where an eigen value of 1 or more was deemed to indicate a unique factor. The Public Finance management practices, had fifty three (53) statements after conducting factor analysis, eleven (11) statements that had factor analysis coefficients with absolute value below 0.4 and therefore the statements were removed in the formation of composite variable Public Finance management practices and the eleven (11) statements were not applied further analysis in the study. The eleven (11) statements removed from the public finance management practices, which had coefficients with an absolute value below 0.4, were PFIC4, PFIC5, PFIC14, PFRM6, PFRM7, PFRM8, PFRM9, PFRM10, PFRM11, PFRM12, and PFRM13. This resulted in a total of forty-two (42) statements that exhibited high loadings of 0.7 and above for each statements, as detailed in Appendix III regarding factor loadings.

Total Variance analysis indicates that the forty two (42) statements on Public Finance management practices can be factored into 1 factor as shown in table 9. Hair et al (2012) suggest that the collective variation accounted for by all components should be within the range of 45% to 60% for social science research. This research used a criterion of 45% or more total variation explained by the retrieved component. Appendix III shows the factor loading of the extracted items for Public Finance management practices. Further table 9 shows the factors (items) and percentage of the total variance explained.

Table 9: Total Variance Explained for Public Finance management practices Variable

Total Variance Explained						
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	%	of Cumulative	Total	%	of Cumulative
		Variance	%		Variance	%
1	20.208	48.113	48.113	19.698	46.899	46.899
2	3.787	9.016	57.129			
3	2.276	5.419	62.548			
4	1.992	4.743	67.292			
5	1.299	3.092	70.384			
6	.976	2.324	72.708			
7	.885	2.107	74.815			
8	.707	1.683	76.498			
9	.673	1.603	78.101			
10	.647	1.540	79.641			
11	.607	1.445	81.086			
12	.506	1.204	82.290			
13	.479	1.141	83.431			
14	.473	1.125	84.556			
15	.448	1.068	85.624			
16	.422	1.005	86.629			
17	.403	.960	87.589			
18	.388	.925	88.514			
19	.364	.867	89.380			
20	.337	.803	90.184			
21	.323	.769	90.953			
22	.314	.749	91.702			
23	.284	.676	92.378			
24	.266	.634	93.012			
25	.265	.630	93.642			
26	.249	.593	94.235			
27	.235	.560	94.795			
28	.214	.509	95.304			
29	.208	.495	95.799			
30	.183	.437	96.236			
31	.176	.418	96.654			
32	.169	.402	97.056			
33	.159	.378	97.434			
34	.155	.369	97.804			
35	.150	.356	98.160			
36	.141	.335	98.495			
37	.122	.289	98.785			
38	.120	.285	99.070			
39	.109	.260	99.330			
40	.099	.236	99.566			
41	.098	.232	99.798			
42	.085	.202	100.000			
Extraction Method: Principal Axis Factoring.						

4.3.2 Factor Analysis for Technology Infrastructure

A factor analysis was conducted on the statements related to Technology Infrastructure. This concept was categorized into four distinct dimensions: Mobile Payments System, Online Response System, Integrated Financial Management Information System, and Automation of revenue collection. The research utilized factor analysis to explore the existence of related variables and to identify any redundant data that could be eliminated. This analysis facilitates the exploration of the structure of interrelationships by identifying and defining various components. The factor analysis process aimed to reduce the dimensions of the statements using the Statistical Package for the Social Sciences (SPSS) version 28 software. For this purpose, principal axis factoring and varimax rotation techniques were employed. The goal was to streamline the data and uncover the latent variable items that most effectively clarify the concept of Technology Infrastructure.

According to Noora Shrestha (2021), the acceptable value of factor loading is generally considered to be 0.7 or greater. This threshold indicates that the observed variable significantly contributes to the latent factor it is intended to measure. Loadings at this level suggest that the variable explains a substantial portion of the variance in the factor. In this procedure, factors with factor loading value below 0.7 were eliminated, resulting in the inclusion of only those components that exhibit great relevance and effect in the construction of variables. Further according to Noora Shrestha (2021), it is recommended to suppress coefficients with an absolute value below 0.4 during component analysis this suppresses the presentation of any factor loadings with values less than 0.4. This approach ensures that only items with substantial relevance and effect in variable creation are included. The process of extracting the components adhered to the Kaiser Criterion, which considers an eigenvalue of 1 or above as an indication of a distinct factor.

During this process coefficients with absolute value below 0.4 were suppressed, this yield to only those items with high significance and influence in variable formation. Njoroge (2012) suggested that during factor analysis coefficients with absolute value below 0.4 should be suppressed, this yield to only those items with high significance and influence in variable formation. The extraction of the factors followed the Kaiser Criterion where an eigen value of 1 or more was deemed to indicate a unique factor. The Technology Infrastructure variable had twenty-five (25) statements, where five (5) statements had factor analysis coefficients with absolute value below 0.4 and therefore the statements were removed in the formation of

composite variable Technology Infrastructure. The five (5) removed statements were not applied further analysis in the study. The five (5) statements removed from the Technology Infrastructure, which had coefficients with an absolute value below 0.4, were TIMIS5, TIMIS6, TIMIS7, TIMIS9 and TIMIS10. This resulted in a total of twenty (20) statements that exhibited high loadings of 0.7 and above for each statements, as detailed in Appendix III regarding factor loadings.

Total Variance analysis indicates that the twenty (20) statements Technology Infrastructure can be factored into 1 factor as shown in table 10. Hair et al (2012) suggest that the collective variation accounted for by all components should be within the range of 45% to 60% for social science research. This research used a criterion of 45% or more total variation explained by the retrieved component. Appendix III shows the factor loading of the extracted items for Technology Infrastructure. Further table 10 shows the factors (items) and percentage of the total variance explained.

Table 10: Total Variance Explained for Technology Infrastructure Variable

Total Variance Explained						
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% Variance	of Cumulative %	Total	% Variance	of Cumulative %
1	10.732	53.659	53.659	10.271	51.354	51.354
2	2.178	10.890	64.549			
3	1.664	8.318	72.867			
4	1.051	5.255	78.122			
5	.596	2.980	81.102			
6	.537	2.684	83.786			
7	.415	2.076	85.861			
8	.379	1.893	87.755			
9	.308	1.542	89.297			
10	.290	1.451	90.747			
11	.272	1.359	92.106			
12	.241	1.207	93.313			
13	.221	1.104	94.418			
14	.209	1.047	95.465			
15	.190	.951	96.415			
16	.176	.880	97.295			
17	.168	.840	98.135			
18	.147	.735	98.870			
19	.125	.625	99.495			
20	.101	.505	100.000			
Extraction Method: Principal Axis Factoring.						

4.3.3 Factor Analysis for Governance Framework

A factor analysis was conducted on the statements related to Governance Framework. This concept was categorized into four distinct dimensions: Constitution of Kenya 2010, Public Finance Management Act 2012, Public Procurement and Asset Disposal Act 2015, and International Public Sector Accounting Standards (IPSAS). The research utilized factor analysis to explore the existence of related variables and to identify any redundant data that could be eliminated. This analysis facilitates the exploration of the structure of interrelationships by identifying and defining various components. The factor analysis process aimed to reduce the dimensions of the statements using the Statistical Package for the Social Sciences (SPSS) version 28 software. For this purpose, principal axis factoring and varimax rotation techniques were employed. The goal was to streamline the data and uncover the latent variable items that most effectively clarify the concept of Governance Framework.

According to Noora Shrestha (2021), the acceptable value of factor loading is generally considered to be 0.7 or greater. This threshold indicates that the observed variable significantly contributes to the latent factor it is intended to measure. Loadings at this level suggest that the variable explains a substantial portion of the variance in the factor. In this procedure, factors with factor loading value below 0.7 were eliminated, resulting in the inclusion of only those components that exhibit great relevance and effect in the construction of variables. Further according to Noora Shrestha (2021), it is recommended to suppress coefficients with an absolute value below 0.4 during component analysis this suppresses the presentation of any factor loadings with values less than 0.4. This approach ensures that only items with substantial relevance and effect in variable creation are included. The process of extracting the components adhered to the Kaiser Criterion, which considers an eigenvalue of 1 or above as an indication of a distinct factor.

During this process coefficients with absolute value below 0.4 were suppressed, this yield to only those items with high significance and influence in variable formation. Njoroge (2012) suggested that during factor analysis coefficients with absolute value below 0.3 should be suppressed, this yield to only those items with high significance and influence in variable formation. The extraction of the factors followed the Kaiser Criterion where an eigen value of 1 or more was deemed to indicate a unique factor. The Governance Framework variable had twenty-one (21) statements, where five (5) statements had factor analysis coefficients with

absolute value below 0.4 and therefore the statements were removed in the formation of composite variable Governance Framework. The five (5) removed statements were not applied further analysis in the study. The five (5) statements removed from the Governance Framework, which had coefficients with an absolute value below 0.4, were GF5, GF6, GF7, GF8 and GF9. This resulted in a total of sixteen (16) statements that exhibited high loadings of 0.7 and above for each statements, as detailed in Appendix III regarding factor loadings.

Total Variance analysis indicates that the sixteen (16) statements Governance Framework can be factored into 1 factor as shown in table 11. Hair et al (2012) suggest that the collective variation accounted for by all components should be within the range of 45% to 60% for social science research. This research used a criterion of 45% or more total variation explained by the retrieved component. Appendix III shows the factor loading of the extracted items for Governance Framework. Further table 11 shows the factors (items) and percentage of the total variance explained.

Table 11: Total Variance Explained for Governance Framework Variable

Total Variance Explained						
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% Variance	of Cumulative %	Total	% Variance	of Cumulative %
1	10.608	66.299	66.299	10.267	64.169	64.169
2	1.019	6.368	72.666			
3	.594	3.712	76.378			
4	.575	3.593	79.971			
5	.513	3.207	83.178			
6	.457	2.858	86.036			
7	.374	2.340	88.377			
8	.302	1.885	90.262			
9	.270	1.690	91.952			
10	.259	1.621	93.573			
11	.215	1.341	94.914			
12	.205	1.280	96.194			
13	.184	1.152	97.346			
14	.167	1.045	98.391			
15	.142	.889	99.280			
16	.115	.720	100.000			
Extraction Method: Principal Axis Factoring.						

4.3.4 Factor Analysis for Own Source Revenue

A factor analysis was conducted on the statements related to Own Source Revenue. This concept was categorized into seven distinct dimensions: OSR Quantity, OSR Growth, OSR

Composition, OSR Diversification, OSR Collection Efficiency, OSR Collection Effectiveness and OSR Sustainability. The research utilized factor analysis to explore the existence of related variables and to identify any redundant data that could be eliminated. This analysis facilitates the exploration of the structure of interrelationships by identifying and defining various components. The factor analysis process aimed to reduce the dimensions of the statements using the Statistical Package for the Social Sciences (SPSS) software. For this purpose, principal axis factoring and varimax rotation techniques were employed. The goal was to streamline the data and uncover the latent variable items that most effectively clarify the concept of Own Source Revenue.

During this process coefficients with absolute value below 0.4 were suppressed, this yield to only those items with high significance and influence in variable formation. Njoroge (2012) suggested that during factor analysis coefficients with absolute value below 0.4 should be suppressed, this yield to only those items with high significance and influence in variable formation. The extraction of the factors followed the Kaiser Criterion where an eigen value of 1 or more was deemed to indicate a unique factor. The Own Source Revenue variable had nineteen (19) statements, where one (1) statement had factor analysis coefficients with absolute value below 0.4 and therefore the statements were removed in the formation of composite variable Own Source Revenue. The one (1) removed statements were not applied further analysis in the study. The one (1) statement removed from the Own Source Revenue, which had coefficients with an absolute value below 0.4, was OSR. This resulted in a total of eighteen (18) statements that exhibited high loadings of 0.7 and above for each statements, as detailed in Appendix III regarding factor loadings. In the case of Own Source Revenue, one (1) statement that had factor analysis coefficients with absolute value below 0.3 and therefore the statement was removed in the formation of composite variable Own Source Revenue and the one (1) statement were not applied further analysis in the study.

Total Variance analysis indicates that the eighteen (18) statements on Own Source Revenue can be factored into 1 factor as shown in table 12. Hair *et al.*, (2012) suggest that the collective variation accounted for by all components should be within the range of 45% to 60% for social science research. This research used a criterion of 45% or more total variation explained by the retrieved component. Appendix III shows the factor loading of the extracted items for Own

Source Revenue. Further table 12 shows the factors (items) and percentage of the total variance explained.

Table 12: Total Variance Explained for Own Source Revenue Variable

Component	Total Variance Explained					
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.086	50.480	50.480	9.086	50.480	50.480
2	2.470	13.724	64.204			
3	1.066	5.920	70.124			
4	.973	5.407	75.531			
5	.662	3.676	79.207			
6	.546	3.032	82.239			
7	.522	2.898	85.137			
8	.453	2.519	87.656			
9	.379	2.104	89.760			
10	.333	1.851	91.610			
11	.284	1.576	93.186			
12	.273	1.518	94.704			
13	.237	1.314	96.018			
14	.200	1.110	97.128			
15	.178	.990	98.118			
16	.129	.718	98.835			
17	.117	.652	99.487			
18	.092	.513	100.000			

Extraction Method: Principal Component Analysis.

4.4 Tests of statistical assumptions

The statistical assumptions were assessed in order to determine whether the data satisfied the assumptions of normality, linearity, homogeneity, and collinearity. Based on the outcomes of these tests, various measures such as central tendency, dispersion, significance tests, association tests, and prediction were conducted.

4.4.1 Linearity

Linearity refers to the condition in which the predictor variables in a regression model exhibit a straight-line relationship with the dependent variable (Field, 2018). This indicates a proportional relationship between changes in the outcome variable and changes in the predictor variable(s). To evaluate whether the linearity assumption holds within the regression model, a linearity test is conducted. This assumption is crucial as it forms the foundational basis of the

model. If the linearity assumption is violated, the results generated from the regression model may be inaccurate or misleading. The assessment of linearity is commonly performed using analysis of variance (ANOVA), which is a statistical method utilized to evaluate and compare the means of two or more distinct groups (Tabachnick & Fidell, 2019). In the context of linearity testing, ANOVA assesses the differences in the average value of the outcome variable across various levels of the predictor variable(s). When the linearity condition is satisfied, it can be concluded that the average value of the dependent variable remains relatively stable across different values of the independent variable(s). Conversely, if the linearity assumption is not met, the average value of the outcome variable tends to show non-linear fluctuations across different values of the predictor variable(s).

Table 13 illustrates a statistically significant linear relationship between the dependent variable own-source revenue in selected county governments in Kenya and the independent variables: Public Finance Management Practices, Technology Infrastructure, and Governance Framework. This is indicated by a significance value (Sig-value) of less than 0.05 ($p < 0.05$), as shown in Table 13. The finding that the significance value for the departure from linearity exceeds 0.05 ($p > 0.05$) suggests that there is no statistically significant evidence indicating that the relationship between the predicted Own Source Revenue and the independent variables—Public Finance Management Practices, Technology Infrastructure, and Governance Framework—deviates from linearity. This implies that the linear model employed in this study is suitable for the data, as the absence of significant deviation confirms the validity of the linearity assumptions. Therefore, a direct correlation exists between Public Finance Management Practices, Technology Infrastructure, and Governance Framework, and Own-source revenue.

Table 13: Linearity results

Variable					Sum of Squares	F	Sig.
Own Source Revenue* Public Linearity					50.917	5.129	.000
Finance Management Practices							
Deviation from Linearity					26.492	2.711	.238

Variable				Sum of Squares	F	Sig.
Own Source Revenue* Technology Infrastructure	Linearity	Deviation from Linearity		38.817	6.796	.000
				16.299	2.949	.459
Own Source Revenue* Governance Framework	Linearity	Deviation from Linearity		29.480	4.900	.000
				12.155	2.098	.558

4.4.2 Normality Test

As noted by Pallant (2010), various statistical methods, such as correlation, regression, t-tests, and analysis of variance collectively known as parametric tests presume that the data adheres to a normal distribution, also referred to as a Gaussian distribution (named after Johann Karl Gauss, 1777–1855). This means that it is expected that the populations from which samples are drawn are normally distributed. The assumption of normality is particularly vital when creating reference intervals for variables (Royston, 1991). It is essential to take normality and other assumptions seriously, as failing to meet these assumptions can lead to inaccurate and unreliable conclusions about reality (Oztuna, 2006). Elliott and Woodward (2007) suggest that with sufficiently large sample sizes (greater than 30 or 40), violations of the normality assumption are unlikely to pose significant issues, allowing for the use of parametric methods even when the data is not normally distributed. In this study, the sample size exceeded 40, necessitating the conduct of normality tests. The assessment of normality is especially important when determining reference ranges for variables (Pallant, 2010). The significance of evaluating normality and other assumptions cannot be overstated, as the absence of these assumptions makes it difficult to draw accurate and reliable inferences about reality (Oztuna, 2006). The normality of the data was evaluated using several statistical methods, including the analysis of skewness and kurtosis statistics, a one-sample Shapiro-Wilk test.

The Skewness is measured by beta 1 while kurtosis is measured by beta 2. Skewness presents the symmetry of the distribution while kurtosis presents the ‘peakness’ of the distribution. The closer skewness and kurtosis values are to 0, the more normal the distribution (Pallant, 2010). The ratio of standard error of skewness is acceptable when it falls within the range of -1

and + 1 and kurtosis falls between -2 and + 2 implying that the assumption of normality was satisfied (Kline, 2005) as shown in table 14.

Table 14: skewness and kurtosis statistics

Variable	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Public Finance Management Practices	.427	.154	.118	.306
Technology Infrastructure	.906	.154	1.011	.306
Governance Framework	.672	.154	.236	.306
Own Source Revenue	.310	.154	.332	.306

The results presented in Table 14 indicate that the skewness for Public Finance Management Practices is 0.427, which falls within the acceptable range of -1 to +1, suggesting a reasonably symmetrical distribution. The kurtosis for this variable is 0.118, a value close to 0, indicating that its distribution is similar to that of a normal distribution. For Technology Infrastructure, the skewness is 0.906, approaching 1, which suggests a moderate positive skew; however, it remains within the acceptable range. The kurtosis for this variable is 1.011, also within the acceptable limits. The Governance Framework shows a skewness of 0.672, indicating a moderate positive skew, while its kurtosis is 0.236, which is relatively close to 0, suggesting that it does not deviate significantly from a normal distribution. In the case of Own Source Revenue, the skewness is 0.310, a small value that falls within the -1 to +1 range, indicating a reasonably symmetrical distribution. The kurtosis for this variable is 0.332, a positive value that also falls within the -2 to +2 range, suggesting a distribution that is reasonably symmetrical. Overall, the skewness and kurtosis results indicate that the collected data is normally distributed, as all variables exhibit skewness within the acceptable range of -1 to +1, and kurtosis values also fall within the acceptable range of -2 to +2.

According to Bourne et al., (2021), parametric tests are based on the assumption that the data follows a specific distribution, typically a normal distribution. Tests such as t-tests, ANOVA, and regression analysis require the data to be normally distributed to yield valid results. When the assumptions regarding the distribution of the data are met, parametric tests are generally more powerful than non-parametric tests, meaning they are more likely to detect true differences or relationships that exist. These tests are relatively robust to deviations from

normality, indicating that the data only needs to be approximately normally distributed to be valid. To assess normality, statistical tests such as the Shapiro-Wilk and Kolmogorov-Smirnov tests can be employed. The Shapiro-Wilk test is recommended for small sample sizes ($n < 50$), while the Kolmogorov-Smirnov test is more appropriate for larger sample sizes ($n > 50$) (Bourne et al., 2021). In this study, the Kolmogorov-Smirnov test was utilized since the sample size exceeded 50. Consequently, the Kolmogorov-Smirnov test was applied in this study to verify the normal distribution of the data. The null hypothesis for the Kolmogorov-Smirnov test posits that the data are normally distributed, while the alternative hypothesis asserts that the data are not normally distributed. The results presented in Table 15 indicated that the data was normally distributed ($P\text{-value} > 0.05$).

Table 15: Kolmogorov-Smirnov test

Variable	Kolmogorov-Smirnov (Sig.)
Public Finance management practices	0.311
Technology Infrastructure	0.435
Governance Framework	0.332
Own Source Revenue	0.294

From table 15, the Kolmogorov-Smirnov significant value (Sig.) is greater than 0.05, and therefore the data is normal. The result of the test of normality for all the study variables showed that Kolmogorov-Smirnov statistics values were all greater than 0.05 and thus the assumption of normality was not violated.

4.4.3 Multicollinearity Test

Multicollinearity can arise when multiple variables assess the same underlying construct (Hair, Money, Page, & Samouel, 2007). It refers to a strong correlation among independent variables that are intended to predict the dependent variable. The existence of multicollinearity among variables significantly impacts the regression analysis and the statistical results of the study. Collinearity tests can be used to identify the presence of multicollinearity. According to Cohen et al. (2003), a commonly recommended threshold for multicollinearity is a tolerance level below 0.8. Furthermore, Hair et al. (2006) indicated that a variance inflation factor (VIF) of less than 5 suggests no multicollinearity, a VIF between 5 and 10 indicates moderate multicollinearity, and a VIF greater than 10 signifies high multicollinearity. Additionally, a

tolerance value over 0.2 indicates the absence of multicollinearity, but a value below 0.1 denotes significant multicollinearity. In this study, a tolerance level of greater than 0.2 and a VIF of less than 5 were adopted to confirm the absence of multicollinearity among the independent variables. The study examined the tolerance and VIF values among the variables, as presented in Table 16, to assess multicollinearity.

Table 16: Multicollinearity Test (Tolerance and VIF)

Research Variables	Collinearity Statistics	
	Tolerance	VIF
Public Finance Management Practices	.311	3.220
Technology Infrastructure	.479	2.090
Governance Framework	.331	3.218

Table 16 presents the tolerance and VIF values for the independent variables in relation to the dependent variable. The variables' tolerance and VIF values are as follows: for Public Finance Management Practices, the tolerance is 0.311 and the VIF is 3.220; for Technology Infrastructure, the tolerance is 0.479 and the VIF is 2.090; and for the Governance Framework, the tolerance is 0.331 and the VIF is 3.218. The research findings indicated the absence of Multicollinearity between the dependent and independent variables.

4.4.4 Homoscedasticity Test

As noted by Daniel (2015), the Levene test is utilized to evaluate the homogeneity or equality of variances between two groups or samples. The independent samples t-test relies on the assumption that the variances across these sample groups are essentially identical, which is referred to as homogeneity of variance. This implies that the variances of the groups are of a similar nature. The Levene test specifically examines the equality of variances between two samples, starting without a predetermined hypothesis. In this context, the null hypothesis states that there is no significant difference between the variances of the two groups. For Levene's test, it is preferable for the variances to be equal. A non-significant result in the Levene test supports the assumption of the independent samples t-test, which relies on the assumption that the variances of the groups are equal. Therefore, a non-significant finding in Levene's test is favorable, as it suggests that the variances are not significantly different. In SPSS software, a Levene test is automatically conducted whenever an independent samples t-test is performed.

If the significance level (Sig.) is greater than 0.05, it can be concluded that Levene's Test is non-significant, indicating that equal variances are assumed.

Table 17: Levene's Test Results

Variable			Levene's Statistic	df1	df2	Sig.	Comment
Public Finance Management Practices			1.101	31	219	.377	p>0.05 hence equal variance
Technology Infrastructure			1.033	32	215	.228	p>0.05 hence equal variance
Governance Framework			0.814	32	221	.212	p>0.05 hence equal variance

Dependent Variable: Own Source Revenue

The results presented in Table 17 illustrate the findings related to homogeneity. The significant p-values for Levene's test were 0.377 for Public Finance Management Practices, 0.228 for Technology Infrastructure, and 0.212 for the Governance Framework. As shown in Table 17, the p-values from Levene's test for homogeneity of variances were all greater than 0.05. Therefore, the test was not significant at $\alpha \leq 0.05$, confirming the presence of homogeneity. The homogeneity test was conducted using Levene's test for equality of variances, as indicated in Table 16. The Levene's statistics for Public Finance Management Practices, Technology Infrastructure, and Governance Framework were 1.101, 1.033, and 0.814, respectively. Since all Levene's statistics were below 5, the research data was determined to meet the assumptions of homogeneity of variances. Homoscedasticity refers to a condition where the variance of the dependent variable remains consistent across the dataset (Ghasemi & Zahedias, 2012). In contrast, heteroscedasticity suggests that the variance of the dependent variable fluctuates within the data.

4.5 General Characteristics of the Study Sample

Demographic data may be used to uncover sample biases such as oversampling or under sampling of certain groups. This information may then be utilised to modify the study's conclusions or to interpret them with care. Demographic data may be utilised to determine how the study's results may change among various demographic categories, such as age, gender,

race, ethnicity, income, and level of education. This study sorts the following demographic data; gender, age, level of formal education and work experience.

4.5.1 Gender of Respondents

The researcher gathered data on the respondent's gender. The data collected from the field pertaining to the respondent gender was subjected to statistical analysis, and the findings were precisely presented in Table 18.

Table 18: Gender

Gender	Frequency	Percent
Female	119	47.4
Male	132	52.6
Total	251	100.0

The findings presented in Table 18 reveal that 132 respondents, representing 52.6 percent of the total, were male and 42.4 percent were female suggesting a relatively balanced representation of genders in the study. Furthermore, gender diversity within organizations fosters a mix of perspectives, resulting in a more comprehensive analysis of the challenges a company encounters and encouraging enhanced effort, which ultimately leads to better decision-making. This improvement can enhance both firm performance and service delivery. Kothari (2004) notes that a gender representation ratio of at least 1:2 in a study is sufficiently representative.

4.5.2 Age bracket of respondents

The research gathered data on the age of the respondents. The data collected from the field pertaining to the age of the respondent was subjected to statistical analysis, and the findings were precisely presented in Table 19. The table 19 results show that respondents in the age group 36-40 years old were highly represented, forming 46.6 percent of the respondents, they were followed by respondents on age group 18-30 and 31-35 years old that formed 18.3 percent of the respondents and the respondents on age group 41-55 years old formed 13.2 percent of the study respondents. Lastly the respondents on age group Over 56 years old formed 3.6 percent of the respondents.

Table 19: Respondents Age

Age group	Frequency	Percent
18-30	46	18.3
31-35	46	18.3
36-40	117	46.6
41-55	33	13.2
56 & Above	9	3.6
Total	251	100

From the study results it can be shown that with age group between 18 years old and 55 years old represented a combined percentage of 96.4% which means that the study respondents were mature people who had knowledge on the area of study. Furthermore, as attuned to Kongiri (2012) who asserted that age maturity is important to improve perceived reliability of generated results. The predominance of individuals aged 36-40, along with the representation of younger respondents, underscores the importance of considering age-related perspectives in public financial management practices.

4.5.3 Level of Education of the Respondent

This study also sought information about the respondents' level of education. Data obtained from the field on the respondents' qualifications were statistically analyzed and the results summarized in Table 20.

Table 20: Respondents Level of Education

Level of Education	Frequency	Percent
Post-secondary Certificate	82	32.7
Bachelor's Degree	112	44.6
Master's Degree	53	21.1
Doctorate or PhD	4	1.6
Total	251	100.0

Table 20 indicates that 112 respondents, that is, 44.61 percent were Bachelors degree holders, 92 respondents, that is, 32.7 percent were holders of Post-secondary Certificate, while 53 respondents, that is, 21.1 percent were holders of Master's degree and finally 4 respondents that is 1.6 percent were Doctorate or PhD holders. The predominance of individuals with higher education suggests that the findings of the study are informed by knowledgeable participants,

which can enhance the relevance and applicability of the results. Additionally, the study underscores the need for inclusive strategies that engage individuals across various educational backgrounds to ensure comprehensive and effective public financial management in county governments. The findings in Table 20 also corroborate with the studies by King and McGrath (2002) which indicates that in today's constantly fluctuating environment, education was a major factor that impacts positively on peoples performance as well as the firms' growth.

4.5.4 Work Experience of the Respondent

This research also aimed to gather data on the work experience of the Respondent. The data collected from the field pertaining to the work experience of the respondent was subjected to statistical analysis, and the findings were precisely presented in Table 21.

Table 21: Work Experience of the respondents

Years worked	Frequency	Percent
1-5 years	95	37.8
6-10 Years	131	52.2
10 Years and above	25	10.0
Total	251	100.0

The study finding in table 21 shows that 131 of the respondents had a work experience of between 6-10 years representing 52.2 percent of the respondents, the respondents with work experience of 1-5years were 95 representing 37.8 percent while the respondents with work experience of 10 years and above were 25 representing 10 percent. The study findings indicate that majority of the respondents were experienced and in a good position to give credible information and feedback sought. These findings indicate that respondents who have longer working period in a given county and areas have a greater experience of how to carry out their duties effectively and more information of county operations.

4.5.5 Respondent Designation

This research aimed to gather data on the respondent designation. The data collected from the field pertaining to the respondent designation was subjected to statistical analysis, and the findings were precisely presented in Table 22. As shown in table 22, 169 of the respondents were Members of County Assembly representing 67.3 percent, 16 of the respondents were Public Service Board Members representing 6.4 percent while 31 of the respondents were Chief

Officer representing 12.4 percent of the respondents. Further 35 of the respondents were Directors of different county departments in charge of revenue collection and management representing 13.9 percent.

Table 22: Respondent Designation

Designation	Frequency	Percent
Member of County Assembly	169	67.3
Public Service Board Member	16	6.4
Chief Officer	31	12.4
Director	35	13.9
Total	251	100.0

4.6 Descriptive Statistics

Descriptive statistics, namely the mean and standard deviation, were used to assess the degree of agreement on the effect of Public Finance Management Practices, Technology Infrastructure, and Governance Framework on the Own Source Revenue by county governments in Kenya. The high mean value indicates a strong agreement with the claims, while the standard deviation provides information about the extent of variation from the mean.

4.6.1 Descriptive Statistics of Public Finance management practices

The study aimed to assess respondents' perceptions of various indicators related to public finance management practices in selected county governments in Kenya. The use of a five-point Likert scale allowed for a nuanced understanding of how respondents feel about specific attributes of public finance management. The scale ranged from 1 to 5, with 1 indicating "strongly disagree," 2 representing "disagree," 3 as "neutral," 4 as "agree," and 5 as "strongly agree." The results, summarized in Table 23, provide valuable insights into the effectiveness and perception of these practices.

Table 23: Descriptive Statistics Public Finance management practices

Statement	Mean	Std. Deviation
There are efforts in the county to optimize own source revenues	4.74	.491
Our revenue collection is automated	4.66	.594
The county government utilizes county Integrated Development Plan as its primary planning document.	4.66	.621

Statement	Mean	Std. Deviation
Revenue automation will increase performance	4.63	.546
I am aware of the existence of the Audit Committee	4.63	.582
The county government conforms to the existing public procurement and asset disposal act and its regulations	4.63	.684
The process of preparing the planning documents (CIDP, ADP, CFSP, and Budget) is consultative	4.59	.654
The county revenue management system conforms with existing national and county policies	4.58	.611
The county budget is implemented as approved by the Assembly	4.56	.663
The county budget is linked to the ADP and CIDP	4.56	.663
The county government utilizes the e-procurement module which is aimed at improving financial performance	4.55	.658
Our Finance Act is fully implemented	4.53	.659
Departmental allocations are based on priorities in ADP and CIDP.	4.51	.665
My department is allocated what is budgeted for.	4.49	.706
Financial planning can be used as a tool to prevent financial challenges	4.49	.641
There are specific managers/officers required to authorize certain types of transactions	4.49	.628
Access is controlled to different parts of an accounting system via passwords, lockouts and electronic access	4.46	.614
There is separation of duties between personnel who make contracts, those who receive the goods or services, and those who authorize payments.	4.45	.639
The county's overall supply chain management system is effective in sourcing and payment of goods, works and services	4.44	.753
The county's plan includes an analysis of the financial environment, revenue and expenditure forecasts, debt position and affordability analysis, strategies for achieving and maintaining financial balance.	4.43	.726
Activities are carried out as planned	4.43	.714
The county has standardised documents used for financial transactions, such as invoices, internal materials requests, inventory receipts and travel expense reports, to maintain consistency in record keeping over time.	4.41	.642
There is separation of duties in the audit team (for bookkeeping, deposits, reporting and auditing)	4.41	.648
Requirements which are above a certain financial threshold are normally advertised in accordance with particular regulations on public procurement	4.41	.677
We are required to prepare procurement plans in time for consolidation in line with annual budget estimates.	4.41	.615
There is separation of financial authority	4.40	.694
There are robust access tracking mechanisms that serve to deter attempts at fraudulent access.	4.40	.682
The financial plan(s) has/have monitoring mechanisms that indicates financial health.	4.40	.716
I have confidence in the internal audit team	4.38	.762
The county government procurement process is anchored on fairness to all bidders	4.37	.749

Statement	Mean	Std. Deviation
The county government conducts monthly budget variance analysis	4.35	.741
Purchasing is based on value for money.	4.35	.766
The county's procurement process is time sensitive	4.34	.791
There is timely disbursement of resources to my department	4.33	.844
All procurement transactions are undertaken in an ethical and honest way	4.31	.828
Suppliers and customers are informed and protected.	4.31	.773
Audit personnel have high integrity ethical values.	4.31	.752
Competition is used to acquire goods and services.	4.30	.751
Occasional accounting reconciliations is done	4.30	.746
The price quoted and terms of payment are clearly negotiated to avoid non-delivery and partial-deliveries which lead to stock-outs	4.29	.799
Physical audits are frequently conducted on any physical asset tracked in the accounting system, such as inventory, materials and tools.	4.29	.685
Average	4.45	0.69

The results in table 23 shows the mean scores for the majority of statements are notably high, with the average score across all items being 4.45 and a standard deviation of 0.69. This indicates a general consensus among respondents that public finance management practices are perceived positively. The highest mean score with a Mean = 4.74 reflects a strong belief that counties are making concerted efforts to optimize their own-source revenues. This suggests that county governments prioritize strategies to enhance revenue collection, which is crucial for financial sustainability, especially in a decentralized governance structure where counties rely on their own revenues to fund services. The low standard deviation of 0.491 indicates a strong consensus among respondents regarding this practice. The positive perception of automated revenue collection with a Mean = 4.66 indicates that respondents believe this practice significantly contributes to improving efficiency and accuracy in revenue generation. Automation reduces human error, streamlines processes, and enhances transparency, which are vital for effective financial management. The standard deviation of 0.594 suggests that while there is general agreement, there may be some variation in experiences across different counties.

The high ratings for the use of Integrated Development Plans (IDPs) as primary planning documents with a Mean = 4.66 suggest that respondents recognize the importance of strategic planning in guiding financial decisions. This practice ensures that revenue generation efforts are aligned with broader development goals, enhancing the overall effectiveness of financial management. The standard deviation of 0.621 indicates a moderate level of agreement,

suggesting that while many respondents see the value in IDPs, there may be differing opinions on their implementation.

The awareness of audit committees among respondents with Mean = 4.63, indicates a recognition of the importance of oversight mechanisms in ensuring accountability and transparency in financial management. This awareness is crucial for fostering trust in the financial practices of county governments, as audit committees play a vital role in monitoring and evaluating financial activities. The standard deviation of 0.582 suggests a relatively consistent perception of the importance of these committees. The high ratings for compliance with public procurement and asset disposal regulations with a Mean = 4.63 suggest that respondents believe county governments adhere to established regulations. This compliance is essential for maintaining integrity in financial transactions and fostering public trust, which is particularly important in the context of public finance management. The standard deviation of 0.684 indicates some variability in responses, reflecting differences in how procurement practices are perceived across various departments. The statement regarding the consultative nature of preparing planning documents received a mean score of 4.59, indicating that respondents believe that stakeholder engagement is a key aspect of effective financial planning. This practice can enhance the relevance and effectiveness of financial strategies by incorporating diverse perspectives. The standard deviation of 0.654 suggests that while many respondents agree on the importance of consultation, there may be differing experiences regarding its implementation.

While the overall mean scores for public financial management practices are high, the standard deviations indicate varying levels of agreement among respondents. Specifically, lower standard deviations suggest a consensus on key practices, such as optimizing own-source revenues and revenue automation, reinforcing the belief that these practices are priorities for county governments. Conversely, some indicators, especially those related to the timely disbursement of resources and the effectiveness of procurement processes, exhibit higher standard deviations, indicating a diversity of opinions and experiences across different departments or counties. This variability highlights areas where improvements may be needed. The positive perceptions reflected in the mean scores suggest that effective public financial management practices are viewed as having a beneficial impact on own-source revenue generation.

Key implications of these findings include enhanced revenue generation, as the strong agreement on the importance of optimizing revenues and automating collection processes indicates that county governments are likely to experience improvements in their financial performance, potentially leading to increased funding for public services. Additionally, the recognition of Integrated Development Plans (IDPs) as primary planning documents underscores the importance of strategic alignment in financial management, which can help ensure that revenue generation efforts are effectively integrated into broader development objectives. However, while the overall sentiment is positive, the variability in responses highlights the need for continuous improvement, particularly in ensuring timely resource disbursement and maintaining high standards of procurement practices. Addressing these concerns could further enhance the effectiveness of public financial management.

The results of the study indicate a generally positive perception of public finance management practices among respondents in county governments in Kenya. The high mean scores reflect confidence in the effectiveness of revenue optimization, automation, and compliance with regulations. However, the findings also point to areas for improvement, particularly in ensuring timely resource disbursement and enhancing ethical procurement practices. These insights can inform policymakers and county officials as they strive to strengthen public finance management and improve overall governance in the counties.

4.6.2 Descriptive Statistics of Technology Infrastructure

The study aimed to assess respondents' perceptions of various indicators related to Technology Infrastructure in selected county governments in Kenya. The use of a five-point Likert scale allowed for a nuanced understanding of how respondents feel about specific attributes of Technology Infrastructure. The scale ranged from 1 to 5, with 1 indicating "strongly disagree," 2 representing "disagree," 3 as "neutral," 4 as "agree," and 5 as "strongly agree." The results, summarized in Table 24, provide valuable insights into the effectiveness and perception of technology infrastructure within these governments.

Table 24: Descriptive Statistics Technology Infrastructure

Statement	Mean	Std. Deviation
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The utilization of mobile service has made it easier to collect revenue	4.75	.622
There is adoption of IFMIS in County public financial management operations	4.73	.571
System comes up with tax fines and penalties automatically.	4.69	.658
There is an active online customer care that is happy to help user	4.64	.731
The County's mobile payment system is safe and secure for users	4.62	.643
The mobile payment system is efficient and fast	4.61	.644
The mobile payment system has improved Own Source Revenue collection.	4.59	.689
The County trains its staff on IFMIS use	4.59	.603
The integrated tax management has helped to expand the County's tax base through registration of new taxpayers	4.57	.649
Community members are always notified of public participation forums	4.56	.657
The system is convenient for the users as well as the County Government	4.56	.663
There is sufficient backup of IFMIS for security of data in the County	4.55	.627
There is integration of IFMIS with other public financial management systems in the County operations	4.54	.670
The compliance record of all taxpayers are kept and updated regularly.	4.53	.659
Users can be able to get help on the use of the system at any time	4.50	.718
Online response systems have improved Own Source Revenue collection	4.49	.750
Integrated Tax management systems has improved compliance levels	4.49	.671
More people are aware that public knowledge on tax has improved as a result of the integrated tax management systems	4.48	.683
Feedback on the service is worked upon so as to improve the quality of the service.	4.47	.711
Payment reminders are sent frequently in order to encourage compliance	4.39	.871
Total Mean Average	4.57	.674
<i>Valid N (listwise)= 251</i>		

Results in table 24 shows an overall mean score for the technology infrastructure indicators is 4.57 and a standard deviation of 0.674, indicating a generally positive perception among respondents. This high average suggests that respondents believe that technology infrastructure is effectively supporting public finance management in county governments. Notably, the highest mean score of 4.75 is attributed to the utilization of mobile services, which respondents believe has significantly enhanced the efficiency of revenue collection processes. The standard deviation of 0.622 indicates a moderate level of agreement, suggesting that while most respondents recognize the benefits of mobile technology, there may be some variation in individual experiences. In addition, the adoption of the Integrated Financial Management Information System (IFMIS) in county public financial management operations received a mean score of 4.73. This reflects a strong belief among respondents that IFMIS is effectively integrated into financial operations, facilitating better management of public funds. The standard deviation of 0.571 indicates a relatively high consensus regarding the importance of IFMIS among respondents. Furthermore, the system's ability to automatically generate tax

finances and penalties garnered a mean score of 4.69, suggesting that respondents view this feature as crucial for enhancing compliance and ensuring that taxpayers fulfill their obligations. However, the standard deviation of 0.658 indicates some variability in opinions, which may reflect differences in the effectiveness of this feature's implementation across various counties.

The presence of an active online customer care service that assists users received a mean score of 4.64, indicating that respondents appreciate the support provided through online platforms. This service not only enhances user experience but also encourages compliance with revenue collection processes. However, the standard deviation of 0.731 suggests that while many respondents value this service, there may be differing experiences regarding its effectiveness. Additionally, the perception that the county's mobile payment system is safe and secure for users garnered a mean score of 4.62, reflecting a strong confidence in the security measures implemented to protect users' financial information. The standard deviation of 0.643 indicates a moderate level of agreement among respondents, suggesting that while most feel secure, there may be some lingering concerns among others. Moreover, the efficiency and speed of the mobile payment system received a mean score of 4.61, indicating that respondents believe these systems significantly enhance the speed of revenue collection. The standard deviation of 0.644 suggests a consistent perception of efficiency among respondents, reinforcing the positive view of mobile payment systems in facilitating timely revenue generation.

The statement that the mobile payment system has improved own-source revenue collection received a mean score of 4.59, indicating that respondents believe technology has a direct positive impact on revenue generation. However, the standard deviation of 0.689 suggests some variability in experiences, which may reflect differences in implementation across counties. Similarly, the county's efforts to train staff on the use of the Integrated Financial Management Information System (IFMIS) also received a mean score of 4.59, highlighting respondents' recognition of the importance of capacity building in effectively utilizing technology for financial management. The standard deviation of 0.603 indicates a moderate consensus on the value of this training. Furthermore, the integrated tax management system's role in expanding the county's tax base through the registration of new taxpayers garnered a mean score of 4.57. This reflects a belief among respondents that technology can enhance tax compliance and broaden the revenue base. The standard deviation of 0.649 suggests some variability in

perceptions regarding this aspect, indicating that experiences may differ across various counties.

The results of the study indicate a generally positive perception of technology infrastructure among respondents in county governments in Kenya. The high mean scores reflect confidence in the effectiveness of mobile services, the adoption of IFMIS, and the overall security and efficiency of technology systems. However, the findings also highlight areas for improvement, particularly in enhancing communication strategies and user support. These insights can inform policymakers and county officials as they strive to strengthen technology infrastructure and improve public finance management in the counties.

4.6.3 Descriptive Statistics of Governance Framework

The study aimed to assess respondents' perceptions of various indicators related to the governance framework in selected county governments in Kenya. Utilizing a five-point Likert scale allowed for a nuanced understanding of how respondents feel about specific attributes of governance. The rating was on a Liker-type scale of 1 to 5 where 1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. The results, summarized in Table 25, provide valuable insights into the effectiveness and perception of governance frameworks within the county governments.

Table 25: Descriptive Statistics Governance Framework

Statement	Mean	Std. Deviation
The laws governing public financial management in the County are anchored in the constitution	4.73	.543
There is public participation on budgeting process in the County	4.61	.644
There is implementation of Public Procurement and Asset Disposal Act 2015 in the County	4.55	.663
There is compliance to public financial management regulations in the County	4.55	.670
County assembly policies assists in monitoring budget spending	4.54	.652
The county ensures adherence to the approved revenue policy	4.52	.628
Budget plans are well executed to avoid financial performance challenges	4.52	.653
There exists a code of ethics in the formulation of revenue policy	4.51	.659
County Appropriation bills passed in a financial year determines county governments performance in that year	4.51	.628
The county ensures strict penalties against fraud and corruption	4.48	.781
The county government fully complies with provisions of all relevant financial laws that guides daily operations	4.47	.700
The county adheres to timeliness in implementation of the revenue policy plans	4.46	.733

Budget legislation are well executed to avoid financial performance challenges	4.46	.749
The revenue policy is consistent with National policies in respect of Tax, Trade and the Economy	4.45	.620
The county government fully complies with provisions of all relevant financial regulations that guides daily operations	4.42	.713
There is adoption of International Public Sector Accounting Standards (IPSAS) in financial accounting and reporting practices in the County	4.41	.628
Total Mean Average	4.51	.667
<i>Valid N (listwise)=251</i>		

Results in table 25 shows an overall mean score for the governance framework indicators is 4.51 and a standard deviation of 0.667, indicating a generally positive perception among respondents. This high average suggests that respondents believe the governance framework is effectively supporting public financial management in county governments. Most indicators have mean scores above 4.0, suggesting a generally positive perception of governance framework practices among respondents. The statement that "the laws governing public financial management in the County are anchored in the constitution" received the highest mean score of 4.73 with a standard deviation of 0.543, indicating a strong consensus among respondents that the legal framework supporting public financial management is robust and constitutionally grounded. This solid legal foundation is essential as it provides legitimacy and clarity in governance, ensuring that financial practices align with national laws and fostering trust in the governance system while encouraging compliance among stakeholders.

Additionally, the mean score of 4.61 for public participation in the budgeting process suggests that respondents value the inclusion of community input in financial decision-making. The standard deviation of 0.644 indicates a moderate level of agreement, implying that while many respondents appreciate public involvement, experiences regarding the extent and effectiveness of this participation may vary. This underscores the importance of engaging citizens in governance processes, as such engagement can enhance transparency and accountability, ultimately leading to improved financial outcomes. Moreover, the indicators related to compliance with the Public Procurement and Asset Disposal Act 2015 and adherence to public financial management regulations both received mean scores of 4.55. This reflects a belief that county governments are committed to following established regulations, which is crucial for maintaining integrity and accountability in financial transactions. However, the standard deviations of 0.663 and 0.670 suggest some variability in perceptions, indicating that

experiences may differ across counties, potentially stemming from differences in implementation practices or the capacity of county governments to adhere to these regulations.

The mean score of 4.54 for the statement that "county assembly policies assist in monitoring budget spending" suggests that respondents believe effective mechanisms for oversight are in place. This monitoring is crucial for ensuring that funds are utilized as intended and for holding officials accountable for their financial performance. The standard deviation of 0.652 indicates a relatively consistent perception of the role of county assemblies in financial oversight, reinforcing the importance of legislative bodies in governance. Furthermore, the indicators related to adherence to approved revenue policies and the execution of budget plans, both with a mean score of 4.52 and standard deviations of 0.628 and 0.653, respectively, suggest that respondents feel confident in the county's ability to manage its finances effectively. This confidence is further bolstered by the existence of a code of ethics in revenue policy formulation, which received a mean score of 4.51 and a standard deviation of 0.659. The presence of such ethical guidelines is essential, as it enhances public trust and ensures that financial decisions are made with integrity. Additionally, the perception that county appropriation bills passed in a financial year determine government performance, reflected in a mean score of 4.51 and a standard deviation of 0.628, illustrates an understanding among respondents that legislative actions have a direct impact on financial outcomes. The belief that strict penalties against fraud and corruption are enforced, indicated by a mean score of 4.48 and a standard deviation of 0.781, highlights the recognition of the importance of deterrents in promoting ethical behavior within financial management. Overall, these findings suggest that respondents view accountability measures as essential for fostering a culture of integrity within county governments.

The mean scores for compliance with relevant financial laws, which stand at 4.47 with a standard deviation of 0.700, and adherence to timeliness in implementing revenue policy plans, noted at 4.46 with a standard deviation of 0.733, suggest that respondents generally believe the county government is diligent in following legal requirements and timelines. This diligence is essential for effective governance, as it ensures that financial operations are conducted in a timely and lawful manner. Moreover, the adoption of International Public Sector Accounting Standards (IPSAS) in financial accounting and reporting practices, which received a mean score of 4.41 and a standard deviation of 0.628, indicates a commitment to aligning local

practices with international standards. This alignment not only enhances the credibility of financial reporting but also improves the overall quality of governance, reinforcing the importance of maintaining high standards in public financial management.

Overall, the results of the study indicate a generally positive perception of the governance framework among respondents in county governments in Kenya. The high mean scores reflect confidence in the legal foundation, public participation, and compliance with regulations. However, the findings also highlight areas for improvement, particularly in enhancing anti-corruption measures and ensuring timely policy implementation. These insights can inform policymakers and county officials as they strive to strengthen governance frameworks and improve public financial management in the counties.

4.6.4 Descriptive Statistics of Own Source Revenue

The study aimed to assess respondents' perceptions of various indicators related to own-source revenue collection in county governments in Kenya. By, utilizing a five-point Likert scale, the study provided a nuanced understanding of how respondents feel about specific attributes of revenue collection. The rating was on a Liker-type scale of 1 to 5 where 1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. The results, summarized in Table 26, reveal important insights into the effectiveness and perception of own-source revenue collection practices.

Table 26: Descriptive Statistics own-source revenue collection

Statement	Mean	Std. Deviation
Automation of revenue collection operations has increased collections and reduced leakages	4.56	.613
The Process of Revenue Collection is Easy and convenient for Residents of the County and other taxpayers	4.51	.602
The number of cases of fraud in revenue collection have been minimized following automation	4.50	.635
The County Government keeps better records on Revenue Collected and Expenditure	4.48	.615
The County revenue collection level has increased since devolution	4.46	.634
The own-revenues sources of county government is cost effective and adequately covered by a legal framework	4.46	.733

The county government has sufficient staff to administer and collect own revenue sources	4.39	.698
The cost of collecting Revenue has been reduced significantly	4.36	.769
The county government has regularly been attaining the annual local revenue targets for the past four years.	4.36	.929
The county government has a debt collection unit that follow taxpayers who have defaulted or delayed in paying tax/fees.	4.34	.754
The county has improved access to quality, affordable water and sewerage services for all citizens	4.28	.802
The County experiences minimal cases of tax evasion thus optimum revenue collection	4.28	.729
The county has improve access to education through bursaries and other support programmes at prep primary and vocational levels	4.24	.803
The county has efficient infrastructure that ensures effective and efficient transport	4.20	.908
The county provides affordable and accessible healthcare services	4.19	.881
The County is financially and economically sustainable based on its annual revenue generated	4.13	.996
The County has excelled to minimize its debt gap and recovery of tax arrears	4.08	1.010
The County revolving fund is sufficient to run its operations sustainably	4.02	1.054
Total Mean Average	4.32	.787
<i>Valid N (listwise) = 251</i>		

Results in table 26 shows an overall mean score for the indicators related to own-source revenue collection is 4.32 with a standard deviation of 0.787, indicating a generally positive perception among respondents. This suggests that respondents believe that the mechanisms in place for collecting own-source revenue are effective and efficient.

The statement that automation of revenue collection operations has increased collections and reduced leakages received a mean score of 4.56 with a standard deviation of 0.613, indicating a strong belief among respondents that automated systems have positively impacted revenue collection by minimizing losses and enhancing efficiency. Automation is crucial as it streamlines processes, reduces human error, and increases transparency, ultimately leading to higher revenue generation. Additionally, the mean score of 4.51 for the statement regarding the ease and convenience of the revenue collection process suggests that respondents find the current systems user-friendly. The standard deviation of 0.602 reflects a consistent perception among respondents, emphasizing the importance of accessible revenue collection methods that encourage compliance and active participation from taxpayers. Furthermore, the statement that

"the number of cases of fraud in revenue collection have been minimized following automation" received a mean score of 4.50 and a standard deviation of 0.635. This result demonstrates a belief that automation not only enhances efficiency but also serves as a deterrent against fraudulent activities, thereby increasing the overall integrity of the revenue collection process.

The mean score of 4.48 for the statement that "the County Government keeps better records on revenue collected and expenditure" indicates that respondents feel confident in the county's ability to maintain accurate financial records. The standard deviation of 0.615 suggests a relatively uniform perception among respondents, which is vital for ensuring accountability and effective financial management. Additionally, the statement that "the county revenue collection level has increased since devolution" received a mean score of 4.46, suggesting that respondents believe devolution has positively influenced revenue collection by empowering local governments to manage their resources more effectively. The standard deviation of 0.634 indicates some variability in perceptions, which may reflect differing experiences across counties. Moreover, the mean score of 4.46 for the statement regarding the cost-effectiveness of own-revenue sources suggests that respondents view the county's revenue generation efforts as efficient and adequately supported by a legal framework. This perception is crucial for ensuring that revenue collection remains sustainable and aligned with legal standards, thereby enhancing the overall financial health of the county government.

The mean score of 4.39 for the statement that "the county government has sufficient staff to administer and collect own revenue sources" suggests that respondents generally believe there is adequate human resource capacity for effective revenue management. However, the standard deviation of 0.698 indicates some variability in perceptions, which may reflect differences in staffing levels and capabilities across various counties. Additionally, the statement that "the cost of collecting revenue has been reduced significantly" received a mean score of 4.36, indicating that respondents feel the county has made significant progress in minimizing the expenses associated with revenue collection. This reduction in costs is essential for maximizing net revenue. Furthermore, the mean score of 4.36 for the statement that "the county government has regularly been attaining the annual local revenue targets for the past four years" reflects a positive perception of the county's performance in meeting its revenue goals. The standard deviation of 0.929 suggests variability in experiences, which may be influenced by differing

economic conditions or varying administrative capabilities among counties. Lastly, the statement regarding the existence of a debt collection unit received a mean score of 4.34, indicating that respondents believe the county is proactive in following up with taxpayers who have defaulted or delayed payments. This proactive approach is a crucial aspect of revenue management, as effective debt collection practices can significantly enhance overall revenue generation.

The mean scores for statements related to improved access to quality services indicate a positive perception among respondents regarding the correlation between revenue collection and the provision of essential services. Specifically, the mean score for access to water and sewerage services is 4.28, while education support programs received a mean score of 4.24. This connection is vital for justifying tax collection efforts and enhancing public trust in government. Furthermore, the mean scores for affordable healthcare services (4.19) and efficient infrastructure (4.20) suggest that respondents believe revenue collection efforts significantly contribute to the overall quality of life in the county. These services are critical for community well-being and play a substantial role in shaping public perception of the effectiveness of county governance. Lastly, the mean score of 4.13 for the statement that "the County is financially and economically sustainable based on its annual revenue generated" reflects a belief that the county's revenue generation is adequate to support its operations. However, the standard deviation of 0.996 indicates some uncertainty in this perception, suggesting that financial sustainability may vary across different counties, highlighting the need for ongoing assessment and improvement in revenue management practices.

The statement regarding the county's efforts to minimize its debt gap and recover tax arrears received a mean score of 4.08, indicating that respondents recognize the importance of effective debt management in maintaining financial health. However, the standard deviation of 1.010 suggests variability in perceptions, reflecting differing levels of success in debt recovery across various counties. Additionally, the mean score of 4.02 for the statement that "the County revolving fund is sufficient to run its operations sustainably" indicates that respondents generally feel positive about the sufficiency of funds. Nevertheless, the higher standard deviation of 1.054 signifies some concern, suggesting that certain counties may face challenges in maintaining adequate revolving funds for operational sustainability. This variability

highlights the importance of assessing financial strategies to ensure consistent support for county operations.

The results of the study indicate a generally positive perception of own-source revenue collection practices among respondents in county governments in Kenya. The high mean scores reflect confidence in the effectiveness of automation, user-friendly processes, and improved record-keeping. However, the findings also highlight areas for improvement, particularly in consistently meeting revenue targets and enhancing debt collection efforts. These insights can inform policymakers and county officials as they strive to strengthen revenue collection mechanisms and improve financial sustainability in the counties.

4.7 Inferential statistics

The researcher sought to investigate the relationship between the study variables, which include Public Finance management practices, Technology Infrastructure, Governance Framework, and Own Source Revenue. The main emphasis of this analysis was on the results of the Pearson correlation. Furthermore, the study aimed to explore the hypotheses, utilizing regression analysis to fulfill this goal.

4.7.1 Correlation analysis

As outlined by Sekaran and Bougie (2010), Pearson correlation analysis is a statistical technique employed to assess the strength, direction, and significance of the relationship between two variables. A positive correlation coefficient signifies a stronger relationship between the variables. Additionally, the correlation can have either a positive or negative value, depending on the nature of the relationship between the variables (Hair et al., 2007).

Table 27: Correlation Analysis Results

			Own Source Revenue	Public Finance Management Practices	Technology Infrastructure	Governance Framework
Own Source Revenue	Pearson Correlation	1				
	Sig. (2-tailed)					
Public Finance Management Practices	N	251				
	Pearson Correlation	.555**		1		
	Sig. (2-tailed)	.000				
	N	251		251		

Technology Infrastructure	Pearson Correlation	.533**	.687**	1	
	Sig. (2-tailed)	.000	.000		
	N	251	251	251	
Governance Framework	Pearson Correlation	.468**	.811**	.687**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	251	251	251	251

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

The correlation analysis results presented in Table 27 provide insights into the relationships between own-source revenue collection (OSR) and three key factors: public finance management practices (PFMP), technology infrastructure (TI), and governance framework (GF). The Pearson correlation coefficients indicate the strength and direction of these relationships, with significance levels confirming the reliability of the findings. The correlation coefficient of 0.555 which is statistically significant ($p < 0.01$), this indicates a moderate positive relationship between own-source revenue collection and public finance management practices. This suggests that improvements in public finance management practices are associated with increased own-source revenue collection. The correlation coefficient of 0.53, which is statistically significant ($p < 0.01$) between own-source revenue collection and technology infrastructure, also reflects a moderate positive relationship. This indicates that as technology infrastructure improves, so does the ability of county governments to collect revenue effectively.

The correlation coefficient of 0.468 which is statistically significant ($p < 0.01$) between own-source revenue collection and governance framework indicates a moderate positive relationship. This suggests that a moderate governance framework, characterized by transparency, accountability, and public participation, contributes to improved revenue collection. Effective governance practices can foster public trust and compliance, which are essential for maximizing revenue from local sources. The correlation analysis results indicate moderate positive relationships between own-source revenue collection and public finance management practices, technology infrastructure, and governance framework in county governments in Kenya. These findings suggest that improvements in governance and financial management practices are interrelated and can lead to enhanced revenue collection.

4.8 Regression Analysis and Test of Hypotheses

Regression analysis, which encompasses simple regression, multiple regression, and stepwise regression, along with Pearson's product correlation analysis, was employed to assess the relationships between the variables of interest and to evaluate the proposed hypotheses. The hypotheses were developed based on the objectives of the study. Simple regression analysis was utilized to test the first hypothesis concerning direct associations, while stepwise regression analysis was applied to investigate the second and third hypotheses regarding indirect relationships. Lastly, multiple regression analysis was used to assess the fourth hypothesis. The choice of the appropriate analytical methods was guided by the study's objectives, the nature of the data, and the measurement scales applied.

The hypotheses were evaluated using a 95 percent confidence level ($\alpha = 0.05$), so the decision to reject or fail to reject a null hypothesis was made based on the calculated p-values. In instances where the p-value is less than 0.05, the research has rejected the null hypotheses. Conversely, when the p-value is greater than 0.05, the study has failed to reject the hypotheses. The analysis of data and subsequent discussions also included the examination of correlations (R), coefficients of determination (R^2), F-statistic values (F), and beta values (β). Moreover, when the F-statistic increases, the level of significance of the model also increases. The impact of the independent variable on the dependent variable, whether positive or negative, was elucidated by examining the sign of the beta (β) coefficient. The R-value quantifies the degree of association between variables, whereas t-values indicate the statistical significance of individual variables. The results are given in accordance with the study's goals and accompanying hypotheses.

4.8.1 Effect of public financial management practices on own-source revenue collection

This section addresses the research purpose of the study, which was to evaluate the impact of public financial management practices on own-source revenue among county governments in Kenya. This goal was achieved through a systematic analysis of the proposed hypotheses in the following way:

H₀₁: There is no significant relationship between public financial management practices on own-source revenue in selected county governments in Kenya.

The use of basic linear regression, which produced the regression coefficients, coefficient of determination (R^2), analysis of variance (ANOVA), and model coefficients, allowed for the

evaluation of the hypothesis' statistical significance. The examination included assessments of goodness of fit in terms of overall significance, individual significance, and diagnostic testing. The aforementioned results are shown in Table 28, Table 29, and Table 30.

Table 28: Model summary public finance management practices and own-source revenue collection

R	R Square	Adjusted R Square	Std. Error of Estimate	Change in R Square	Change in F	df1	df2	Sig.	F
.555 ^a	.308	.306	.46890	.308	111.076	1	249	.000	

a. Predictors: (Constant), Public Finance Management Practices

The model summary results presented in Table 28 provide important insights into the relationship between public finance management practices and own-source revenue collection. The analysis employs a regression model to assess how well public finance management practices predict variations in own-source revenue collection. The correlation coefficient (R) is 0.555, indicating a moderate positive correlation between public finance management practices and own-source revenue collection. The R Square value of 0.308 suggests that approximately 30.8% of the variance in own-source revenue collection can be explained by public finance management practices. This indicates that while public finance management practices play a significant role in influencing revenue collection, other factors may also contribute to the remaining variance. Furthermore, it can be concluded that the remaining 69.2% of the variations in own-source revenue may be due to factors not included in the current model such as economic conditions, population, or political influences. This implies that improved public finance management practices are associated with higher own-source revenue, but they are not the only determining factor.

Table 29: ANOVA public finance management practices and own-source revenue collection

	Sum of Squares	df	Mean Square	F	Sig.
Regression	24.422	1	24.422	111.076	.000 ^b
Residual	54.747	249	.220		
Total	79.170	250			

a. Dependent Variable: Own Source Revenue

b. Predictors: (Constant), Public Finance Management Practices

The ANOVA results presented in Table 29 provide critical insights into the relationship between public finance management practices and own-source revenue collection. The ANOVA results suggest that public finance management practices significantly influence own-source revenue collection in county governments. The high F-statistic ($F = 111.076$) and the significant p-value ($p \leq 0.05$) indicate that improvements in public finance management practices lead to increased revenue collection. This finding underscores the importance of effective financial management strategies in enhancing the financial sustainability of county governments in Kenya.

Table 30: Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	1.447	.275		5.272	.000	.907	1.988		
Public Finance Management Practices	.651	.062	.555	10.539	.000	.529	.772	1.000	1.000

a. Dependent Variable: Own Source Revenue

The coefficients presented in Table 30 provide critical insights into the relationship between public finance management practices and own-source revenue collection. This regression analysis helps to quantify the effect of public finance management practices on the ability of county governments to generate own-source revenue collection.

The analysis revealed that public finance management practices is statistically significant at the individual level, as indicated by the results presented in Table 30 ($\beta = .651$, $t = 10.539$, p-value ≤ 0.05). It indicates that for every one-unit improvement in the Public Financial Management Practices score, the Own-Source Revenue of a county government is predicted to increase by 0.651 units, holding all other factors constant. Based on the results presented in Table 30, the regression model equation can be formulated as follows: $Y = 1.447 + 0.651X$ where Y represents the Own Source Revenue, and X represents public finance management practices. ***Own Source Revenue = 1.447 + 0.651 × Public Finance Management Practices.***

One-unit increase represents a consistent, positive shift in perception or practice, therefore the regression coefficient of 0.651 indicates that for every one-point increase in the average score of public finance management practices on the 1-to-5 likert scale, the own-source revenue in selected county governments is expected to increase by 0.651 units, holding all other factors constant.

The positive correlation suggests that improvements in public finance management practices are likely to enhance Own Source Revenue. The findings from this study provide empirical evidence that public finance management practices significantly influences the own-source revenue in selected county governments in Kenya. As a result, the null hypothesis (H_{01}), which stated that there is no significant relationship between public financial management practices on own-source revenue in selected county governments in Kenya, was rejected. Therefore, the researcher concluded that Public Finance Management Practices does indeed have a significant effect on the own-source revenue in selected county governments in Kenya.

4.8.2 Mediation effect of governance framework on the relationship between public finance management practices and Own Source Revenue

The second objective of the study was to evaluate the degree to which governance framework serves as a mediator in the association between public financial management practices on own-source revenue in selected county governments in Kenya. To achieve this, a four stepwise regression was conducted as outlined by Baron and Kenny (1986). Breakdown of the four steps:

1. Step 1: Establish the initial relationship.

This step involves testing if the independent variable (X) significantly predicts the dependent variable (Y). This confirms that there's a relationship to potentially be mediated.

2. Step 2: Show the relationship between the independent variable and the mediator.

The independent variable (X) is regressed on the mediator (M) to determine if X significantly predicts M. This confirms that the independent variable influences the mediator.

3. Step 3: Show the relationship between the mediator and the dependent variable.

In this step, the mediator (M) is regressed on the dependent variable (Y), controlling for the independent variable (X). This demonstrates that the mediator significantly predicts the dependent variable, even after controlling for the independent variable.

4. Step 4: Test for mediation effects.

This step involves analyzing the relationship between the independent variable and the dependent variable while controlling the mediator. If the effect of the independent variable on the dependent variable is non-significant when the mediator is included, it suggests full mediation, meaning the mediator fully explains the relationship between the independent and dependent variables. If the effect of the independent variable remains significant, it suggests partial mediation, where the mediator only partially explains the relationship.

1. Step1: Public Finance management practices Predicting Own Source Revenue

This step was intended to confirm the significance of the relationship between the Public Finance management practices (X) and own-source revenue in selected county governments in Kenya (Y) expressed as $X \rightarrow Y$. As shown in table 28, table 29, and table 30, when Public Finance management practices as the predictor is held constant own-source revenue in selected county governments in Kenya will remain at 1.447. In addition, an enhancement in Public Finance management practices by a solitary unit leads to an increase in own-source revenue in selected county governments in Kenya by 0.615 units with a p-value of $0.000 < 0.05$. Findings

shows that adjusted R-squared = 0.306 with F-calculated = 111.076 at a 2-tailed test at 95% confidence level and a p-value = 0.000 < 0.05 as well as a significant positive elasticity (0.615). This implies that, Public Finance management practices significantly predict constant own-source revenue in selected county governments in Kenya: $Y = 1.447 + 0.615X$.

2. Step2: Public Finance management practices predicting Governance Framework

This step was intended to confirm whether the relationship between Public Finance management practices (X) and Governance Framework (M) is significance of illustrated as $X \rightarrow M$.

Table 31: Model summary for Public Finance management practices and Governance Framework

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	F	df1	df2	Sig.	F
				R Square Change	Change			Change	
.811 ^a	.657	.656	.31884	.657	477.599	1	249	.000	

a. Predictors: (Constant), Public Finance management practices

Results in table 31, show an adjusted R-Square of 0.656 with Sig= 0.000 where p-value<0.05. This implies that Public Finance management practices explain 65.6% percent of the variation in Governance Framework.

Table 32: Analysis of Variance (ANOVA) on Public Finance management practices and Governance Framework

	Sum of Squares	df	Mean Square	F	Sig.
Regression	48.552	1	48.552	477.599	.000 ^b
Residual	25.313	249	.102		
Total	73.866	250			

a. Dependent Variable: Governance Framework

b. Predictors: (Constant), Public Finance management practices

As shown in table 32, F-calculated = 477.599 at 2-tail test and 95% confidence level. Results also show p-value = 0.000 < 0.05. This further enhances the inference that Public Finance management practices significantly influences Governance Framework.

Table 33: Regression Coefficients on Public Finance management practices and Governance Framework

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.455	.187		2.439	.015
Public Finance management practices	.918	.042	.811	21.854	.000

a. Dependent Variable: Governance Framework

Findings as shown in table 33 show that, when Public Finance management practices is held constant, Governance Framework remains at 0.455. Additionally, a one unit increase in Public Finance management practices leads to an increase in Governance Framework by 0.918 units with a p-value of $0.000 < 0.05$. Consequently, the researcher summarizes that, Public Finance management practices significantly and positively predicts Governance Framework as summarized by the following model. The linear regression model equation is: Governance Framework = $0.455 + 0.918 \times \text{Public Finance Management Practices}$ that is ($M = 0.455 + 0.918X$).

3. Step3: Governance Framework predicting Own Source Revenue

This step was intended to confirm whether the relationship between Governance Framework (M) and Own Source Revenue (Y) is significance of illustrated as $M \rightarrow Y$.

Table 34: Model summary for Governance Framework and Own Source Revenue

R	R Square	Adjusted R Square	Std. Error of Estimate	Change in the R Square	Change Statistics F	df1	df2	Sig.	F
.468 ^a	.219	.216	.49837	.219	69.755	1	249	.000	

a. Predictors: (Constant), Governance Framework

Results in table 34 show an adjusted R-Square of 0.216 with Sig= 0.000 where p-value<0.05. This implies that Governance Framework explains 21.6% percent of the variation in own-source revenue in selected county governments in Kenya.

Table 35: Analysis of Variance (ANOVA) on Governance Framework and Own Source Revenue

Sum of Squares	df	Mean Square	F	Sig.
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Regression	17.325	1	17.325	69.755	.000 ^b
Residual	61.845	249	.248		
Total	79.170	250			

a. Dependent Variable: Own Source Revenue

b. Predictors: (Constant), Governance Framework

As shown in table 35, $F_{\text{calculated}} = 69.755$ at 2-tail test and 95% confidence level. Results also show $p\text{-value} = 0.000 < 0.05$. This further enhances the inference that Governance Framework significantly influences own-source revenue in selected county governments in Kenya.

Table 36: Regression Coefficients on Governance Framework and own-source revenue

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.139	.263		8.118	.000
Governance Framework	.484	.058	.468	8.352	.000

a. Dependent Variable: Own Source Revenue

Findings as shown in table 36 show the standardized coefficient when the governance framework is held constant, own-source revenue remains at 2.139. Additionally, the standardized coefficient for the governance framework is 0.468. This indicates that for every one-unit increase in the governance framework, own-source revenue collection is expected to increase by 0.468 units, holding all other factors constant. This substantial coefficient suggests a positive effect of a robust governance framework on revenue generation. The significance level for the governance framework coefficient is 0.000 where ($p \leq 0.05$), indicating that the relationship is statistically significant. Consequently, the researcher summarizes that, Governance Framework significantly and positively predicts own-source revenue in selected county governments in Kenya as summarized by the following model: **$Y = 2.139 + 0.484M$**

4. Public Finance Management Practices and Governance Framework predicting Own Source Revenue

This step was intended to confirm whether Public Finance Management Practices (X) and Governance Framework (Z) significantly influence own-source revenue in selected county governments in Kenya expressed as $Z|X \rightarrow Y$

Table 37: Coefficient of Determination on public finance management practices and governance framework predicting own-source revenue

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics						
				R Square Change	F Change	df1	df2	Sig. Change	F	
.593 ^a	.352	.347	.45480	.352	67.373	2	248	.000		

a. Predictors: (Constant), public finance management practices, governance framework

The findings shown in Table 37 indicate the correlation coefficient (R) is 0.593, suggesting a moderate positive correlation between the variables studied. This indicates that as the quality of public finance management practices and governance frameworks improves, there is a tendency for own-source revenue to increase. The R Square value of 0.352 implies that approximately 35.2% of the variance in own-source revenue can be explained by the independent variables (public finance management practices and governance framework). This is a substantial proportion, indicating that these factors play a significant role in revenue generation. The adjusted R-squared (0.347) provides a more accurate representation of the model's goodness-of-fit. This means that, the Adjusted R Square (0.347) is very close to the regular R Square (0.352) which is a good sign. It tells us that both of study variables (public finance management practices and governance frameworks) are genuinely contributing to the understanding of own-source revenue collection in selected county governments in Kenya, and the model isn't just looking good because it has more variables included into it. This suggests that the model is a reasonably good and efficient way to see how these two variables (public finance management practices and governance frameworks) relate to county governments in Kenya ability to generate own-source revenue.

Additionally, this finding suggests that a 65.3% percent of the observed differences in own-source revenue in selected county governments in Kenya cannot be accounted for just by the variables of public finance management practices and governance frameworks included in this particular model. The statistical analysis indicates a significant relationship between public finance management practices and governance frameworks in predicting own-source revenue. These findings highlight the need for continuous improvement in PFM systems to enhance revenue generation capabilities, ultimately contributing to better public service delivery and economic stability.

Table 38: Analysis of Variance (ANOVA) on Public Finance Management Practices and Governance Framework predicting Own Source Revenue

	Sum of Squares	df	Mean Square	F	Sig.
Regression	27.872	2	13.936	67.373	.000 ^b
Residual	51.298	248	.207		
Total	79.170	250			

a. Dependent Variable: Own Source Revenue

b. Predictors: (Constant), Governance Framework, Public Finance Management Practices

As shown in table 38, $F_{\text{calculated}} = 67.373$ at 2-tail test and 95% confidence level. Results also show $p\text{-value} = 0.000 < 0.05$. This reinforces the premise that public finance management practices and governance framework have a substantial impact on the success of own-source revenue collection by county governments in Kenya. Therefore, the greater the level of public finance management practices and governance framework, the higher the own-source revenue collection by county governments in Kenya.

Table 39: Regression Coefficients of public finance management practices and governance framework Predicting Own Source Revenue

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.973	.291		3.349	.001
Public Finance Management Practices	.419	.082	.358	5.087	.000
Governance Framework	.328	.080	.287	4.084	.000

a. Dependent Variable: Own Source Revenue

The results in table 39 show that the coefficients of public finance management practices on Own Source Revenue when the mediator governance framework is controlled to be $\beta = 0.328$ and its significant $p\text{-value} = 0.000 < 0.001$. So the relationship between public finance management practices and Own Source Revenue is still significant when the mediator governance framework is controlled. The study shows that governance framework is a partial

mediator in the relationship between public finance management practices and Own Source Revenue. This can be proven by the fact that the coefficients in table 30 between public finance management practices and Own Source Revenue is $\beta = 0.651$ and its significant p-value = 0.000 < 0.05. This coefficient value reduces to $\beta = 0.328$ when a mediator governance framework is introduced in the relationship between public finance management practices and Own Source Revenue and therefore this means that governance framework partially mediates the relationship between public finance management practices and Own Source Revenue by county governments in Kenya.

These findings were summarized in a model as:-

(ii) *Performance of completed road projects* = $0.973 + 0.419(\text{Public Finance Management Practices}) + 0.328(\text{Governance Framework})$.

The null hypothesis (H_{02}), which posited that *there is no significant mediation effect of Governance Framework on the relationship between public finance management practices and Own Source Revenue by county governments in Kenya*, was rejected. Consequently, the researcher concluded that there is indeed a significant mediation effect of Governance Framework on the relationship between public finance management practices and Own Source Revenue by county governments in Kenya. In conclusion, the regression coefficients provide compelling evidence of the positive relationships between public finance management practices, governance frameworks, and own-source revenue. By focusing on these areas, governments can enhance their revenue-generating capabilities, ultimately leading to improved public service delivery and economic stability.

4.8.3 The Moderating effect of Technology Infrastructure on the relationship between Public Finance Management Practices and Own-source revenue in selected county governments in Kenya.

The third aim of this research was to assess the extent to which technological infrastructure act as a moderating factor in the relationship between public financial management practices and own-source revenue in selected county governments in Kenya. To investigate this, the study tested the following hypothesis: H_{03} – here is no significant moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya. To evaluate this null hypothesis, a hierarchical multiple regression analysis was performed. The moderation effect was examined using the linear regression capabilities in SPSS ver 28, following the

methodology established by Baron and Kenny (1986). This process involved analyzing the regression relationships among public financial management practices, technological infrastructure, and own-source revenue in selected county governments in Kenya. The regression analysis was conducted in a hierarchical manner; specifically, an interaction term derived from the product of public financial management practices and technological infrastructure was included as an additional predictor in the model. The hierarchical regression models utilized in this analysis are elaborated upon in the following sections.

Table 40: Adjusted R-squared for the moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
				of R Square Change	F Change	df1	df2	Sig.	F
.556 ^a	.309	.304	.46954	.309	55.547	2	248	.000	
.576 ^b	.332	.324	.46284	.022	8.240	1	247	.004	

a. Predictors: (Constant), technological infrastructure, public financial management practices

b. Predictors: (Constant), technological infrastructure, public financial management practices, Interaction Term

Table 40 illustrates the percentage of variation in own-source revenue generated by county governments in Kenya (the dependent variable) that can be attributed to Public Finance Management Practices and Technology Infrastructure (the independent variables). In the initial model, the R value of 0.556 indicates a moderate positive correlation between Public Finance Management Practices and own-source revenue. The R Square value of 0.309 suggests that approximately 30.9% of the variance in own-source revenue can be explained by the Public Finance Management Practices alone. The F Change statistic of 55.547, with a significance level of 0.000, confirms that the model is statistically significant, indicating that the relationship observed is unlikely to be due to chance.

In the second model, the R value increases to 0.576, indicating a stronger correlation when technological infrastructure is included as a moderating variable. The R Square value rises to 0.332, meaning that 33.2% of the variance in own-source revenue can now be explained by both Public Finance Management Practices and technological infrastructure. The R Square

Change of 0.022 suggests that the addition of technological infrastructure contributes an additional 2.2% to the explanatory power of the model. The F Change statistic of 8.240, with a significance level of 0.004, indicates that this addition is statistically significant, reinforcing the importance of technological infrastructure in enhancing the relationship between Public Finance Management Practices and revenue generation. In conclusion, the analysis highlights the critical role of technological infrastructure in moderating the relationship between public financial management practices and own-source revenue. By investing in technology, governments can significantly enhance their financial management capabilities, leading to improved revenue generation and ultimately better public service delivery.

Table 41: ANOVA for the moderating effect of Technology Infrastructure on the relationship between Public Finance Management Practices and Own Source Revenue

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.493	2	12.247	55.547	.000 ^b
	Residual	54.677	248	.220		
	Total	79.170	250			
2	Regression	26.258	3	8.753	40.859	.000 ^c
	Residual	52.912	247	.214		
	Total	79.170	250			

a. Dependent Variable: own-source revenue

b. Predictors: (Constant), technological infrastructure, public financial management practices

c. Predictors: (Constant), technological infrastructure, public financial management practices, Interaction Term

The analysis of variance depicted in table 41 was intended to evaluate if Technology Infrastructure and Public Finance Management Practices in model 1 and if Technology Infrastructure, Public Finance Management Practices and Technology Infrastructure multiplied by Public Finance Management Practices (interaction term) in model 2 are significant. The ANOVA was also intended to determine whether the amount of variance that model 1 and model 2 accounted for (with the interaction term) is registering more than model 1 (that is characterized without the interaction term). The Findings of the analysis indicate that the model in its entirety is significant given that $F = 55.547$, $p\text{-value} = 0.000 < 0.001$ for model 1, and $F = 40.859$, $p\text{-value} = 0.000 < 0.001$ for model 2.

Table 42: Model Coefficients for the moderating effect of Technology Infrastructure on the relationship between Public Finance Management Practices and Own Source Revenue

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.423	.278		5.116	.000
	public financial management practices	.602	.106	.514	5.702	.000
	technological infrastructure	.053	.093	.051	.567	.572
	(Constant)	3.554	.791		4.491	.000
2	public financial management practices	.007	.232	.006	.028	.977
	technological infrastructure	-.461	.201	-.445	-2.290	.023
	Interaction Term	.140	.049	.967	2.871	.004

a. Dependent Variable: Own Source Revenue

In table 42 we are interested in the coefficient (Beta) values of Public Finance Management Practices, Technology Infrastructure and interaction term (Public Finance Management Practices and Technology Infrastructure). The results from Model 1 indicate that the constant term suggests an expected own-source revenue of approximately 1.423 when both public financial management practices and technological infrastructure are at zero, which is statistically significant and establishes a reliable baseline for revenue generation. Furthermore, the coefficient of 0.602 implies that for each one-unit increase in public financial management practices, own-source revenue is anticipated to rise by 0.602 units, while controlling for other factors. The standardized coefficient (Beta) of 0.514 indicates a strong positive effect, highlighting that effective public financial management practices are a significant predictor of revenue generation, as supported by the high t-value and low p-value that confirm the statistical significance of this relationship. In contrast, the coefficient for technological infrastructure is minimal and not statistically significant ($p = 0.572$), suggesting that it does not exert a meaningful impact on own-source revenue when considered in isolation within this model.

The results from Model 2 reveal that the constant term indicates a higher baseline expected own-source revenue of 3.554 when all independent variables are zero, and this finding is statistically significant. However, the coefficient for public financial management practices in this model is negligible and statistically insignificant ($p = 0.977$), suggesting that the effect of Public Finance Management Practices on own-source revenue is not significant when technological infrastructure is included as a moderating variable. In contrast, the negative coefficient for technological infrastructure indicates that an increase in this variable is associated with a decrease in own-source revenue, which is statistically significant ($p = 0.023$). This unexpected outcome may imply that certain elements of technological infrastructure could be misaligned with revenue generation efforts, potentially leading to inefficiencies or mismanagement. Additionally, the positive coefficient for the interaction term suggests that technological infrastructure significantly enhances the relationship between public financial management practices and own-source revenue. The high t-value and low p-value (0.004) confirm the statistical significance of this moderating effect, indicating that effective technological infrastructure amplifies the positive impact of PFM practices on revenue generation.

The moderating model can be summarized as:

(iii) ...Own Source Revenue = $1.423 + 0.602 (\text{Public Finance management practices}) + 0.53 (\text{Technology Infrastructure})$

(iv) ...Own Source Revenue = $3.554 + 0.007 (\text{Public Finance management practices}) - 0.461 (\text{Technology Infrastructure}) + 0.140 (\text{Public Finance management practices and Technology Infrastructure})$.

The researcher therefore, Rejects the null hypothesis three (H_{03}) and consequently concludes that there is significant moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya. In conclusion, the analysis reveals that while public financial management practices are essential for generating own-source revenue, their effectiveness is significantly moderated by the presence of robust technological infrastructure. This highlights the need for county governments to prioritize technological investments alongside improving financial management practices to optimize revenue outcomes. Additionally, it may be

beneficial to assess and refine the existing technological infrastructure to ensure it aligns with the goals of enhancing revenue generation.

4.8.4 The Moderated Mediation of Technology Infrastructure, Governance Framework on public financial management practices and own-source revenue

The fourth objective of the study was to determine the moderating effect of Technology Infrastructure on the mediating role of governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya. This was done through testing the hypothesis *H04: There is no significant moderated mediation effect of technological infrastructure and governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.*

The concept of moderated mediation, often referred to as the conditional indirect effect, arises when the independent variable (X) not only exerts a direct influence on the dependent variable (Y) but also affects it indirectly through a mediator variable. In this scenario, both the direct and indirect impacts of the independent variable are moderated by a third variable, known as the moderator. To validate the existence of this moderated mediation effect, Hayes (2013) introduced a systematic approach designed to assess and confirm both the direct and indirect effects.

- i. To determine the presence of moderated mediation using the Hayes-Macro Process, it is essential to examine the index of moderated mediation along with the lower and upper level confidence intervals (LLCI and ULCI). For the moderated mediation effect to be considered statistically significant, the value of zero must fall outside the range defined by the LLCI and ULCI, meaning that zero should not be located between these two intervals.
- ii. The next step involves analyzing the DIRECT EFFECT as presented in the results. This entails assessing the influence of the independent variable (X) on the dependent variable (Y). The findings for the relationship from X to Y should demonstrate significance, indicated by the absence of zero within the LLCI and ULCI. If this condition is met, it confirms that both the direct and indirect effects are significant.

To evaluate this hypothesis, the researcher employed moderated mediation analyses, specifically focusing on the conditional indirect effect, utilizing the bootstrapping technique within SPSS through Andrew Hayes's (2013) PROCESS macros. This methodology is uniquely

suited for providing clear and formal estimates of conditional indirect relationships. It facilitates the examination of mediation effects while accounting for variations introduced by different levels of the moderating variable. Notably, the bootstrapping method is highly robust, making it effective regardless of the statistical distribution of the analyzed variables or the sample size. Furthermore, by generating confidence intervals, this approach allows for sound statistical inferences regarding conditional indirect relationships.

Ultimately, the relationship between the independent variable and the dependent variable is influenced by the interplay between both the mediating and moderating variables. According to Hayes and Preacher (2013), conditional indirect effects occur when the moderating variable affects the indirect relationship between the independent variable and the dependent variable through the mediator. In contrast, conditional direct effects refer to the moderating variable's influence specifically on the direct link between the independent and dependent variables. To obtain reliable and valid results, it is essential to analyze these different effects simultaneously (Hayes & Preacher, 2013a, 2013b).

The PROCESS macro developed by Andrew Hayes presents several advantages: (1) it addresses the shortcomings of traditional sequential methods that test mediation and moderation separately; (2) it yields more rigorous and precise outcomes through the application of the bootstrapping technique; (3) it is compatible with both standard multiple regression analyses and structural equation modeling (Hayes & Preacher, 2013); and (4) it has been designed to be user-friendly with ready-to-use macros. Given its sophistication and ease of use, coupled with its widespread adoption in high-impact research publications, the PROCESS macro is highly recommended for testing conditional indirect effects (Sylvie et al., 2015). The test results for the moderated mediation are presented in parts from tables 43, 44, 45 and 46 and explained after the tables.

Table 43: Index of Moderated Mediation

Conditional direct effect(s) of public financial management practices on own-source revenue:

TechInf	Effect	se	t	p	LLCI	ULCI
-.4933	.3870	.1092	3.5449	.0005	.1720	.6021
.0000	.4676	.1059	4.4167	.0000	.2591	.6761
.4329	.5383	.1085	4.9632	.0000	.3247	.7519

Conditional indirect effects of public financial management practices on own-source revenue:

INDIRECT EFFECT:

public financial management practices -> governance framework -> own-source revenue:

TechInf	Effect	BootSE	BootLLCI	BootULCI
-.4933	-.0164	.0907	-.2073	-.1471
.0000	-.0154	.0845	-.1927	.1386
.4329	.0246	.0792	.1784	.1317

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
TechInf	.0119	.0150	.0218	.0368

TechInf (Technology Infrastructure)

The table 43 shows that results at 95% confidence interval (CI) in section ‘Index of Moderated mediation’ at the bottom of the table. The moderated mediation effect is significant as the CI excludes zero [0.0218; 0.0368]. With these bootstrapping results the study hypothesis (H0₄) stating that *there is no significant moderated mediation effect of technological infrastructure and governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya* is therefore rejected.

After such results in table 41, where the index of moderated mediation is significant, It is now possible to localize the moderating effect: on the second mediation segment and on the direct effect. Table 44 shows the results of interactive terms (Int_1), that is the moderating effect of

technological infrastructure on the second segment of the mediating relationship between governance framework and own-source revenue in selected county governments in Kenya.

Table 44: Indirect Path Effect

OUTCOME VARIABLE: governance framework						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.8347	.6968	.0907	189.1855	3.0000	247.0000	.0000
Model						
	coeff	se	t	p	LLCI	ULCI
constant	4.5259	.0199	227.6151	.0000	4.4867	4.5650
PFMP	.7086	.0551	12.8707	.0000	.6002	.8170
TechInf	.2074	.0591	3.5097	.0005	.0910	.3238
Int_1	-.0890	.0360	-2.4716	.0141	-.1599	-.0181
Product terms key:						
Int_1 : PFMP x Tech_Inf						
Test(s) of highest order unconditional interaction(s):						
	R2-chng	F	df1	df2	p	
X*W	.0075	6.1087	1.0000	247.0000	.0141	

PFMP (public financial management practices), TechInf (technological infrastructure), Int_1 (Interactive term 1)

The results in table 44 involves observing the significance and Confidence Interval is of the first interactive terms (Int_1), which corresponds to $(M \times V) \rightarrow Y$, that is, the moderating effect of technological infrastructure on the second segment of the mediating relationship between governance framework and own-source revenue in selected county governments in Kenya. The results show that the indirect path is significant with coefficient (coeff.) = 0.2074, and p-value = 0.0005 and with Lower and Upper Confidence interval excluding Zero CI = [0.0910; 0.3238]. Further the first interactive term (Int_1) is significant with (coeff. = -0.089, p=0.0141) and Lower and Upper Confidence interval excluding Zero CI= [-0.1599; -0.0181]. Further, table 45 displays the results of direct path and interactive terms (Int_2) which corresponds to

(X×V)→Y, that is, the moderating effect of technological infrastructure on the direct link between public financial management practices and own-source revenue in selected county governments in Kenya.

Table 45: Direct Path Effect

OUTCOME VARIABLE: own-source revenue						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.6134	.3763	.2007	37.1062	4.0000	246.0000	.0000
Model						
	coeff	se	t	p	LLCI	ULCI
constant	4.3956	.4295	10.2351	.0000	3.5497	5.2415
PFMP	.4676	.1059	4.4167	.0000	.2591	.6761
GovtFrm	-.0217	.0947	-.2296	.8186	-.2082	.1647
TechInf	.4508	.0901	5.0046	.0000	.2734	.6282
Int_2	.1633	.0542	3.0114	.0029	.0565	.2701
Product terms key:						
Int_2 : PFMP x Tech_Inf						
Test(s) of highest order unconditional interaction(s):						
	R-Square-chng	F	df1	df2	p	
X*W	.0230	9.0688	1.0000	246.0000	.0029	

PFMP (public financial management practices), GovtFrm (Government Framework), TechInf (technological infrastructure), Int_2 (Interactive term 2)

The findings presented in Table 45 indicate that the direct relationship between public financial management practices and own-source revenue generated by county governments in Kenya is statistically significant, with a coefficient of 0.467 and a p-value of 0.000. The corresponding Lower and Upper Confidence Interval (CI) excludes zero, specifically CI = [0.2591; 0.6761]. Additionally, the second interaction term (Int_2) is also significant, with a coefficient of 0.1633 and a p-value of 0.0029, along with a confidence interval of CI = [0.0565; 0.2701] that does not include zero.

From these results, we can deduce that the confidence intervals for both the direct path and the first and second interaction terms consistently exclude zero. This finding suggests that the moderator, technological infrastructure, significantly influences the direct relationship between public financial management practices and own-source revenue ($X \rightarrow Y$) for county governments in Kenya. Furthermore, it implies that this moderator also plays a crucial role in the mediation process between the government framework and own-source revenue ($M \rightarrow Y$) for these county governments. The final step, illustrated in Table 46, involves examining the results of the 95% Confidence Intervals in the section labeled 'Conditional Indirect Effects of X on Y for the Different Moderator Values' located at the bottom of the output page. This section will provide further insight into how the moderator affects the relationships being studied.

Table 46: Conditional Indirect Result

Conditional indirect effects of X on Y:				
INDIRECT EFFECT:				
<i>PFMP</i> ->	<i>GovtFrm</i> ->	<i>OSR</i>		
TechInf	Effect	BootSE	BootLLCI	BootULCI
-.4933	-.0164	.0907	-.2073	-.1471
.0000	-.0154	.0845	-.1927	.1386
.4329	.0246	.0792	.1784	.1317

PFMP (public financial management practices), *GovtFrm* (Government Framework), *TechInf* (technological infrastructure), *OSR* (own-source revenue)

The findings presented in Table 46 illustrate three sets of Lower and Upper Confidence Intervals (LLCI and ULCI) corresponding to different values of technological infrastructure, which serves as the moderator. These values are calculated at: (1) one standard deviation below the mean (-1SD), (2) at the mean (SD), and (3) one standard deviation above the mean (+1SD).

The analysis yielded the following confidence intervals:

- For the lower level of technological infrastructure (mean minus one standard deviation): CI = [-0.2073; -0.1471];
- For the average level of technological infrastructure (mean): CI = [-0.1927; 0.1386];
- For the higher level of technological infrastructure (mean plus one standard deviation): CI = [0.1784; 0.1317].

The results detailed in Table 46 indicate that the conditional indirect effect of technological infrastructure is statistically significant across all three categories—lower, average, and higher—since the 95% Confidence Intervals do not include zero. This suggests that the impact of technological infrastructure on the dependent variable is consistently significant regardless of its level.

The study null hypothesis (H0₄) that states that there is no significant moderated mediation effect of technological infrastructure and governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya is hereby rejected. The model explaining the results enumerated in Table 44 and 45 is given by:

Own-source revenue through Indirect Path:

$$(iv) \dots \text{own-source revenue} = 4.5259 + 0.7086 (\text{public financial management practices}) + 0.2074 (\text{technological infrastructure}) - 0.089 (\text{public financial management practices} * \text{technological infrastructure})$$

Own-source revenue through direct Path:

$$(v) \dots \text{own-source revenue} = 4.3956 + 0.4676 (\text{public financial management practices}) - 0.0217 (\text{Government Framework}) + 0.4508 (\text{technological infrastructure}) + 0.1633 (\text{public financial management practices} * \text{technological infrastructure})$$

4.9 Results Discussion

This part presents the research findings by elucidating the discrepancies and agreements of the results in relation to the findings of comparable studies about the particular problems examined in this study. This encompasses comprehensive analyses of the correlations among research variables namely public finance management practices, governance framework, technology infrastructure, and Own Source Revenue by county governments in Kenya, in light of the specific findings pertaining to the four study objectives.

4.9. Public financial management practices and own-source revenue

The results reveal a strong positive connection between public financial management practices and the enhancement of own-source revenue in selected county governments in Kenya,

evidenced by an aggregate mean score of 4.45 and a standard deviation of 0.69, indicating a general consensus on the effectiveness of these practices. The highest mean score of 4.74 suggests that county governments are actively prioritizing revenue optimization strategies, essential for financial sustainability in a decentralized governance context, with a low standard deviation of 0.491 indicating uniformity in respondents' perceptions of these efforts. Furthermore, positive views on automated revenue collection (Mean = 4.66) emphasize its role in improving efficiency and accuracy while reducing errors and enhancing transparency, although some variability across counties is noted with a standard deviation of 0.594. The significance of Integrated Development Plans (IDPs) as strategic planning tools (Mean = 4.66) is acknowledged, but the moderate standard deviation of 0.621 reflects differing opinions on their implementation. Awareness of audit committees (Mean = 4.63) underscores the necessity of oversight for accountability, and compliance with public procurement regulations (Mean = 4.63) demonstrates trust in financial transactions. Additionally, a mean score of 4.59 for stakeholder engagement in planning processes highlights the importance of inclusivity in financial strategies, despite variability in consultation experiences indicated by a standard deviation of 0.654. Overall, these findings underscore the vital role of effective public financial management practices in enhancing own-source revenue for county governments, fostering trust, accountability, and alignment with developmental objectives.

The current results are in agreement with Taek, Djhamhuri, and Baridwan (2020), research that aimed to delve into the subjective interpretations of informants regarding their roles in managing Regional Original Revenues, which encompass regional taxes. The findings revealed that officials perceive their responsibilities as integral to the effective management of local revenue streams, highlighting the significance of public financial management practices in enhancing revenue generation. Additionally, Pagarra (2023) investigated the challenges faced in public sector innovation to enhancing local own-source revenue in Makassar City, Indonesia. This revenue encompasses various components, including regional taxes, levies, and the management of regional assets. The research revealed that the regional revenue department initiated innovation programs, notably through the implementation of integrated and digitalized tax applications designed to improve tax collection efficiency. The study identifies significant barriers to the successful execution of these innovations particularly the insufficient training and technical guidance provided to employees. The study underscores the critical need for

enhanced training and guidance to cultivate a culture of innovation, thereby facilitating improved revenue generation and management in local government operations.

The findings of this specific research were based on the null hypothesis, which posits that there is no significant relationship between public financial management practices on own-source revenue in selected county governments in Kenya. Using a simple regression mode, the correlation analysis results established there existed a moderate positive significant correlation of $r=0.555$ and $p\text{-value}<0.000$ between public financial management practices and own-source revenue by county governments in Kenya. The adjusted R-square (R^2) for this relationship was determined to be 0.306, suggesting that project planning explains 30.6% of the variations in the own-source revenue in selected county governments in Kenya. The research findings indicate a robust positive and statistically significant association between public financial management practices and own-source revenue in selected county governments in Kenya. The findings of this study align with the research conducted by Munyambonera and Lwanga (2015) that provided a thorough evaluation of the public financial management (PFM) reforms implemented by Uganda's Ministry of Finance since the fiscal year 2012/2013. The key reforms included the establishment of a Treasury Single Account, enhancements to the Integrated Financial Management System and the Integrated Personnel and Payroll System, as well as improvements in wage and payroll management, budget formulation, implementation, monitoring, and reporting. The findings indicated that these key PFM reforms have not only improved the management of public expenditures but have also contributed to greater accountability and a reduction in the overall wage bill across all Ministries, Departments, and Agencies, thereby fostering a more efficient and transparent public financial management environment in Uganda.

Accordingly, the study findings which led to the rejection of the null hypothesis established that own-source revenue in selected county governments in Kenya was significantly and positively influenced by Public Finance management practices. This is evident from the findings that there was moderate positive correlation between public financial management practices and own-source revenue collection. Effectively, this means that an enhancement in the quality of public financial management practices will increase own-source revenue in selected county governments in Kenya. The study therefore established that public financial management practices moderately but positively impacts the increase in own-source revenue

in selected county governments in Kenya in several areas namely; OSR Composition, OSR Diversification, OSR Collection Efficiency, OSR Collection Effectiveness and OSR Growth. This confirms a statistically significant positive effect of that variation in own-source revenue can be explained by a unit change in public financial management practices on own-source revenue in selected county governments in Kenya hence the basis for rejection of the null hypothesis (H01) that there is no significant relationship between public financial management practices on own-source revenue in selected county governments in Kenya.

These results are in line with Ochuodho and Ngaba (2020) investigations on the impact of several key factors on financial performance in Kisumu County, Kenya. Specifically, the research focuses on the Integrated Financial Management Information System (IFMIS), revenue diversification, internal control, and employee motivation. The findings of the study reveal that the effective implementation of the IFMIS, along with revenue diversification, strong internal controls, and motivated employees, significantly enhances revenue collection performance. This suggests that these elements are crucial for improving financial outcomes within the county government context. This similar to the current study that the positive correlation public finance management practices and Own Source Revenue suggests that improvements in public finance management practices are likely to enhance Own Source Revenue. In summary, the findings from this study provide empirical evidence that public finance management practices significantly influences the own-source revenue in selected county governments in Kenya.

4.9.2 Governance framework, public financial management practices and own-source revenue in selected county governments in Kenya

The second objective of the study was to determine the mediating effect of governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya. The results indicate a strong positive perception of the governance framework's mediating effect on the relationship between public financial management practices and own-source revenue for county governments in Kenya, as evidenced by an overall mean score of 4.51 and a standard deviation of 0.667. Most governance indicators scored above 4.0, reflecting general approval among respondents. Notably, the highest mean score of 4.73 for the legal framework suggests that respondents believe the laws governing public financial management are well-established and constitutionally grounded,

which provides legitimacy and clarity, fostering trust and compliance. Additionally, a mean score of 4.61 for public participation in budgeting highlights the value placed on community involvement in financial decision-making, although the moderate standard deviation of 0.644 indicates variability in experiences regarding the effectiveness of this engagement. Compliance with the Public Procurement and Asset Disposal Act and public financial management regulations both received mean scores of 4.55, suggesting a commitment to integrity and accountability, while the belief that county assembly policies effectively monitor budget spending (mean score of 4.54) reinforces the importance of legislative oversight. Furthermore, adherence to revenue policies and budget execution scored 4.52, indicating confidence in financial management practices, complemented by the presence of ethical guidelines in revenue policy formulation (mean score of 4.51). The perception that county appropriation bills influence government performance (mean score of 4.51) illustrates an understanding among respondents that legislative actions directly impact financial outcomes. The belief in strict penalties against fraud and corruption (mean score of 4.48) highlights the recognition of the importance of deterrents in promoting ethical behavior within financial management. Overall, these findings suggest that respondents view accountability measures as essential for fostering a culture of integrity within county governments, emphasizing the critical role of a robust governance framework in enhancing public financial management and ultimately improving own-source revenue generation.

These study results are in agreement with Herdiansyah and Mukran (2022) who developed a strategic model for enhancing the quality of public services with the purpose of maximising the district's Own Source Revenue for the Government of Palembang, Indonesia. The findings indicated that the strategy model for enhancing the quality of public services in order to maximise the region's own-source revenue (OSR) of Palembang. Government is a complex system of interconnected activities and components that cannot be isolated from each other. These include the vision, mission, regulations, information technology, and the function and quality of the State Civil Apparatus (ASN) in providing public services. The study is also in agreement with study by Wakwabubi, Nkundabanyanga, Orobia, and Kaawaase (2023) who investigated the mediating role of local government delivery systems in the relationship between local governance and financial distress in Uganda. The findings showed that the delivery system, particularly in terms of capacity development and community participation, significantly contributed to financial distress. However, political clientelism and oversight

mechanisms were found to be more significant contributors. The study suggests that the delivery system also mediates the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

This study objective was pursued on the basis of the null hypothesis that there is no mediating effect of governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya. The study findings rejected the null hypothesis and established that governance framework partially mediate the relationship between public financial management practices and own-source revenue in selected county governments in Kenya. The study revealed that the correlation coefficient was 0.593, suggesting a moderate positive correlation between governance framework, public financial management practices and own-source revenue studied. This indicates that as the quality of public finance management practices and governance frameworks improves, there is a tendency for own-source revenue to increase. This indicates that as the quality of public finance management practices and governance frameworks improves, there is a tendency for own-source revenue to increase. The R-Square value of 0.352 implies that approximately 35.2% of the variance in own-source revenue can be explained by the independent variables (public finance management practices and governance framework). This is a substantial proportion, indicating that governance framework and public financial management practices factors play a significant role in revenue generation.

Additionally, the relationship between public finance management practices and Own Source Revenue is still significant when the mediator governance framework is controlled. The study shows that governance framework is a partial mediator in the relationship between public finance management practices and Own Source Revenue. This can be proven by the fact that the coefficients for public finance management practices and Own Source Revenue is $\beta = 0.651$ and its significant p-value = $0.000 < 0.05$. This coefficient value reduces to $\beta = 0.328$ when a mediator governance framework is introduced in the relationship between public finance management practices and Own Source Revenue and therefore this means that governance framework partially mediates the relationship between public finance management practices and Own Source Revenue by county governments in Kenya.

These study results are agreement with study by Sande, Okiro, Wanjare, and Omoro, in 2023 who investigated the mediating effect of public participation on the relationship between budgeting practices and financial performance of 47 county governments in Kenya. The results showed a significant positive influence of public participation on financial performance, with both budgetary practices and public participation having positive effects. The study concluded that public participation partially mediates the relationship between budgeting practices and financial performance in county governments. Additionally the study results are in line with a study conducted by Elias Mbau's (2019) to examine the mediating effect of allocative efficiency on the relationship between fiscal decentralization and county government performance in 47 Kenyan counties from 2013-2018. The results showed that allocative efficiency did not significantly mediate the relationship between fiscal decentralization and county performance. The current study results show that governance framework partially mediate the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

4.9.3 Technological infrastructure, public financial management practices and own-source revenue in selected county governments in Kenya

The objective of this research was to investigate the moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue generated by county governments in Kenya. The findings of the study underscore the significant role that technological infrastructure plays in influencing the outcomes of own-source revenue for these governments. The technological infrastructure examined included a Mobile Payments System, automation of revenue collection, and the Integrated Financial Management Information System (IFMIS). The results indicate a strong positive perception of the impact of technological infrastructure on the relationship between public financial management practices and own-source revenue among county governments in Kenya. Respondents expressed a general consensus regarding the effectiveness of technology in enhancing revenue collection processes, as evidenced by an overall mean score of 4.57 and a standard deviation of 0.674. This agreement is particularly notable for mobile services, which achieved the highest mean score of 4.75, highlighting their critical role in improving revenue collection efficiency.”

The moderate standard deviation of 0.622 suggests that while most respondents acknowledge the benefits of mobile technology, individual experiences may vary, potentially influencing overall satisfaction and perceived effectiveness. Furthermore, the adoption of IFMIS received a high mean score of 4.73, reflecting strong confidence in its integration into financial operations, which facilitates better management of public funds. The system's ability to automatically generate tax fines and penalties (mean score: 4.69) is regarded as essential for enhancing compliance. However, the variability in standard deviations points to differing implementation experiences across counties. Positive perceptions regarding online customer care services (mean score: 4.64) and the safety of mobile payment systems (mean score: 4.62) further reinforce the value of technological infrastructure in enhancing user experience and security. Overall, these findings emphasize the importance of technological infrastructure in improving efficiency and compliance in public financial management practices, as well as its positive influence on own-source revenue generation among county governments in Kenya.

The findings of the current study are consistent with the research undertaken by Onger, Magutu, and Litondo (2020) that assessed the moderating role of information technology infrastructure on the relationship between business process re-engineering (BPR) strategy and the performance of food manufacturing companies in Kenya. The study concluded that information technology infrastructure significantly and positively moderates the relationship between business process re-engineering and the performance of food manufacturing companies in Kenya, thereby reinforcing the resource advantage and resource-based theories. The authors emphasized that managers should prioritize information technology infrastructure when implementing business process reengineering strategies to enhance overall firm performance and service delivery. Additionally the study results are in agreement with a study by Ringim, Razalli andHasnan (2019) examined the moderating effects of information technology capability on the relationship between business process reengineering factors and organizational performance of Nigerian banks. The findings showed that IT capability moderated the relationship between BPR factors such as change management, customer focus, management commitment and overall organizational performance of bank. Also, the result revealed that IT capability moderated the relationship between IT investment, management commitment and customer service management performance of bank.

The aim of this research was to assess the moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya. This study was conducted under the assumption of the null hypothesis, which posits that no such moderation effect exists. The results of the research have refuted the null hypothesis and have shown the presence of a substantial moderating impact of technological infrastructure on the correlation between public financial management practices and own-source revenue in selected county governments in Kenya. The findings of the moderator test indicate that technological infrastructure play a moderating role in the association between public financial management practices and own-source revenue in selected county governments in Kenya. Additionally, the independent variable of public financial management practices is found to be a predictor of the own-source revenue in selected county governments in Kenya. Additionally, the results obtained from the bootstrapping analysis indicated the presence of a statistically significant interaction effect, as well as a substantial moderation index.

In the first model in Table 40, the R value of 0.556 indicated a moderate positive correlation between Public Finance Management Practices and own-source revenue. The R Square value of 0.309 suggests that approximately 30.9% of the variance in own-source revenue can be explained by the Public Finance Management Practices alone. In the second model, the R value increases to 0.576, indicating a stronger correlation when technological infrastructure is included as a moderating variable. The R Square value rises to 0.332, meaning that 33.2% of the variance in own-source revenue can now be explained by both Public Finance Management Practices and technological infrastructure. The R Square Change of 0.022 suggests that the addition of technological infrastructure contributes an additional 2.2% to the explanatory power of the model. The model coefficient results from Model 1 indicated that the constant term predicts expected own-source revenue of 1.423 when both public financial management practices and technological infrastructure are at zero. This finding is statistically significant and establishes a reliable baseline for revenue generation.

Furthermore, the coefficient of 0.602 implies that for each one-unit increase in public financial management practices, own-source revenue is anticipated to rise by 0.602 units, while controlling for other factors. The standardized coefficient (B) of 0.514 indicates a strong positive effect, highlighting that effective public financial management practices are a significant predictor of revenue generation, as supported by the high t-value and low p-value

that confirm the statistical significance of this relationship. The positive coefficient for the interaction term suggests that technological infrastructure significantly enhances the relationship between public financial management practices and own-source revenue. The high t-value and low p-value (0.004) confirm the statistical significance of this moderating effect, indicating that effective technological infrastructure amplifies the positive impact of public financial management practices on revenue generation. The analysis reveals that while public financial management practices are essential for generating own-source revenue, their effectiveness is significantly moderated by the presence of robust technological infrastructure. This highlights the need for county governments to prioritize technological investments alongside improving financial management practices to optimize revenue outcomes. Additionally, it may be beneficial to assess and refine the existing technological infrastructure to ensure it aligns with the goals of enhancing revenue generation.

The results corroborate those of Laban, Muchiri and Muthinja, Moses (2023) who investigated the impact of automation on revenue collection in Nyandarua County, Kenya, focusing on the effects of automated revenue systems, mobile payments, online response processes, and integrated tax management systems on the county's own-source revenue. The findings revealed an R squared value of 0.862 and an adjusted R squared of 0.849, indicating that automation accounts for 84.9% of the variation in own-source revenue collection in Nyandarua County. The study found that mobile payments ($\beta = .538$, $p = .005$), online response processes ($\beta = .239$, $p = .042$), and the integration of tax management systems ($\beta = .282$, $p = .019$) all had significant positive effects on revenue collection. The research concluded that automating revenue collection positively impacts own-source revenue in Nyandarua County and recommended that other counties explore automation to improve their revenue collection efforts. Additionally the study is in agreement with a study by Munguti, (2022) who examined how Machakos would improve Own Source Revenue. The findings also indicated that automation ($r = .64$, $p = .00$); human resource trainings ($r = .53$, $p = .00$); and enforcement ($r = .52$, $p = .00$) were associated to revenue mobilized. Further, regression analysis revealed that automation ($p = 0.00$) and enforcement ($p = .01$) variables were statistically significant. The findings are evidence that Machakos has an opportunity to enhance and achieve targeted Own Source Revenue and therefore the county should advantageously maximize revenue streams; establish strategies to overcome challenges; automate all revenue collection systems; and enforce taxable transactions.

4.9.4 Technological infrastructure, governance framework, public financial management practices and own-source revenue.

This study objective was built on the hypothesized statement that there is no significant moderated mediation effect of technological infrastructure and governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya. The study findings rejected the null hypothesis since the study results showed that the moderated mediation index being significant. The bootstrapping results revealed that the index of Moderated mediation' at the bottom of the table. The moderated mediation effect is significant as the Confidence Interval (CI) excludes zero [0.0218; 0.0368] where the zero (0) is outside the confidence interval and thus moderation mediation is significant. The index of moderated mediation was tested with a 95% bias-corrected bootstrap confidence interval based on 5,000 replications. The model results showed that there was strong significant positive correlation between all the study variables namely; technological infrastructure, governance framework, public financial management practices and own-source revenue in selected county governments in Kenya.

The study tested the moderated mediation also called conditional indirect effect, which occurs when the independent variable (public financial management practices) has a direct effect on the dependent variable (own-source revenue) and also when the independent variable (public financial management practices) has indirect effect on the dependent variable (own-source revenue) through the mediating variable (governance framework) and both direct and indirect effect are influenced by the moderating variable (technological infrastructure). The model coefficients showed that the direct association between own-source revenue in selected county governments in Kenya was found to be moderated by technological infrastructure.

The bootstrapping results showed that the index of moderation mediation is significant; the direct relationship between public financial management practices and own-source revenue generated by county governments in Kenya is statistically significant, with a coefficient of 0.467 and a p-value of 0.000. The corresponding Lower and Upper Confidence Interval (CI) excludes zero, specifically CI = [0.2591; 0.6761]. Additionally, the second interaction term (Int_2) is also significant, with a coefficient of 0.1633 and a p-value of 0.0029, along with a confidence interval of CI = [0.0565; 0.2701] that does not include zero. We can therefore

conclude that both the Confidence Interval (CI) for Indirect path, Direct path, First and Second Interaction term excludes zero, indicating that the moderator (technological infrastructure) has an influence on the direct link between (public financial management practices → own-source revenue in selected county governments in Kenya), that is public financial management practices and own-source revenue and on the second half of the mediation (governance framework → own-source revenue), that is, the link between governance framework and own-source revenue in selected county governments in Kenya.

The results concur with results by Owuori, Ngala, and Obwatho (2021) investigated the moderating effect of governance principle application on the mediation effect of technological capability on the relationship between management practices and service sustainability of water companies in Kenya. On moderating effect of Governance principle application on the mediation effect of technological capability on the relationship between management practices and service sustainability of water companies in Kenya, the study established a statistically significant moderated mediation effect between Governance principle application and sustainability of water services. These results also conform to the study by Saprudin, Jurana, and Nina (2023) who investigated the effects of local own-source revenue and balance funds on economic growth across 34 Indonesian regencies and cities from 2015 to 2019. The findings revealed that local own-source revenue, balance funds, remaining budget surplus, and capital expenditure all contributed positively to economic growth. However, an interesting observation was that the balance fund negatively affected the remaining budget surplus.

Additionally, a study conducted by Chacha, Nyangau, and Omare (2020) examined the moderating effect of government policy on the relationship between revenue collection practices and financial accountability in the Rorya District Council in Tanzania. The study found a significant negative relationship between cess collection and financial accountability, suggesting that cess collection revenues should be improved through a set target compatible with all customer fees. The study also recommended enhancing government policy through enforcement of laws and regulations through corporate taxes to improve collection targets. Further a study by Wagana in 2017 investigated the moderating effect of county revenue policy on the implementation of e-government in Kenya, involving a substantial sample of 2,794 county government officials from all 47 counties. The findings revealed that e-government did not significantly moderate the relationship between governance decentralization and service

delivery, suggesting that simply implementing e-government systems may not be sufficient to enhance service delivery in a decentralized governance framework. Furthermore, the study pointed out a notable gap in existing research regarding the moderated mediation effects of technological infrastructure and governance frameworks on the relationship between public financial management practices and the generation of own-source revenue in selected county governments in Kenya

4.10 Empirical Model

Following the empirical insights derived from the research, a systematic refinement of the analytical model was undertaken to enhance its precision and applicability. The primary objective of this optimization process was to streamline the framework by retaining only those predictors that demonstrated statistical significance, thereby promoting a more focused and objective representation of the underlying relationships. This refinement was achieved through iterative applications of regression analysis, allowing for the evaluation and selection of the most robust variables. The resulting streamlined conceptual model, which encapsulates these key elements, is visually depicted in Figure 2, offering a clear and concise illustration of the optimized structure.

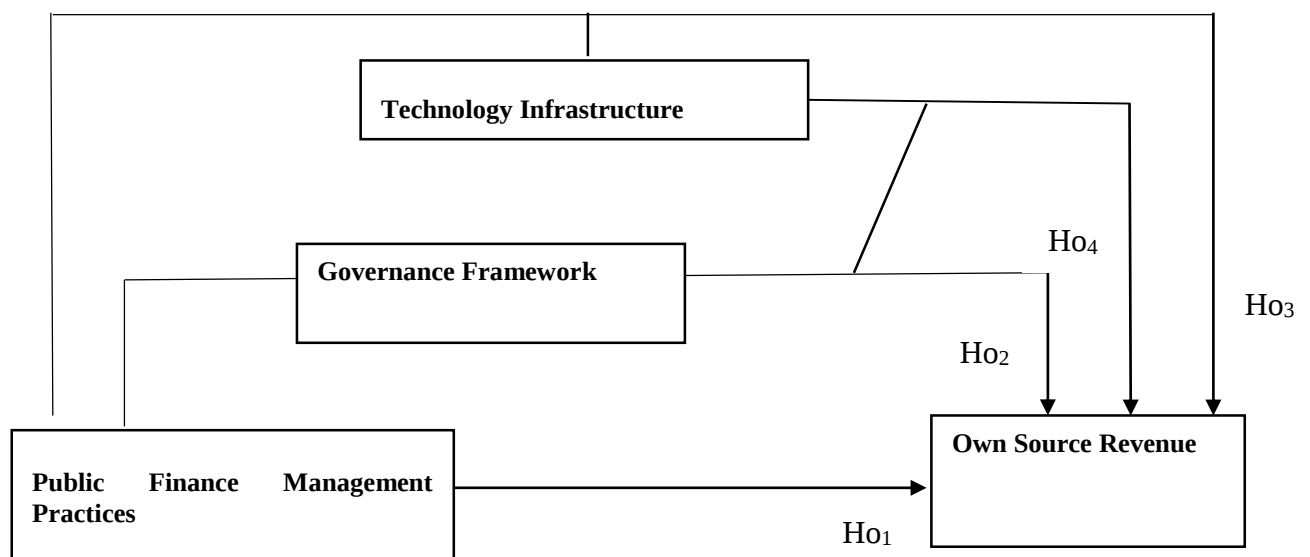


Figure 2: Empirical Model

The model depicted in Figure 2 demonstrates that no variables were excluded, as all null hypotheses of the study were rejected, leading to the acceptance of the model as originally conceptualized. Consequently, this model is regarded as the optimal representation of the relationships being examined.

4.11 Chapter Summary

This chapter presents the findings of the investigation, which aimed to analyze the impact of public financial management practices, governance framework, and technological infrastructure on the effectiveness of own-source revenue for county governments in Kenya. It includes a comprehensive examination of the results, covering aspects such as response rates, demographic information, descriptive statistics, factor analysis, diagnostic tests, and inferential statistics. The research data were thoroughly evaluated, and conclusions were drawn in relation to the study's primary objectives. Moreover, this chapter summarizes the key findings from various tests conducted on the study's hypotheses, along with relevant discussions for each case. Ultimately, the research sought to determine how public financial management practices, governance frameworks, and technological infrastructure influence own-source revenue among county governments in Kenya.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this chapter, the most important results and conclusions drawn from the research is presented. The purpose of this research was to determine the extent to which public financial management practices, governance framework and technological infrastructure all have an impact on the own-source revenue in selected county governments in Kenya. It was the descriptive and inferential statistical analysis results that were used to test the research hypotheses. These results were then used to make a summary of the most important findings and conclusions, which was in line with the study's goals.

5.2 Summary of the Findings

The study aimed to assess respondents' perceptions of various indicators related to public finance management practices in county governments in Kenya. The results indicate a generally positive perception among respondents, with an average mean score of 4.45 and a standard deviation of 0.69 across all indicators. Key findings reveal that respondents rated the efforts to optimize Own Source Revenue Collections highly, with a mean of 4.74, suggesting a strong consensus on the effectiveness of these efforts. Additionally, the automation of revenue collection received a mean score of 4.66, indicating that respondents believe it is crucial for enhancing revenue collection efficiency. The importance of the County Integrated Development Plan as a primary planning document was also recognized, reflected in a mean score of 4.66. Respondents expressed confidence in the perceived impact of revenue automation on performance, scoring it 4.63. Awareness of the Audit Committee and adherence to the public procurement and asset disposal act both received mean scores of 4.63, indicating a strong perception of governance and compliance. The consultative nature of preparing planning documents scored 4.59, suggesting that respondents value inclusive processes in financial planning. Furthermore, the perception that the county budget is implemented as approved by the Assembly received a mean score of 4.56, indicating confidence in budget adherence. Indicators related to financial controls, such as separation of duties and access control mechanisms, received scores ranging from 4.40 to 4.49, suggesting a belief in the integrity of financial management processes. Overall, the results reflect a positive perception of public finance management practices among respondents, highlighting the importance of

governance, transparency, and effective financial systems in enhancing revenue collection in county governments in Kenya.

The first objective of the study examined the effect of public financial management practices on own-source revenue in selected county governments in Kenya. Using a simple regression mode, the correlation analysis results established there existed a moderate positive significant correlation of $r=0.555$ and $p\text{-value}<0.000$ between public financial management practices and own-source revenue in selected county governments in Kenya. The adjusted R-square (R^2) for this relationship was determined to be 0.308, suggesting that project planning explains 30.8% of the variations in the own-source revenue in selected county governments in Kenya. The research findings indicate a robust positive and statistically significant association between public financial management practices and own-source revenue in selected county governments in Kenya. Accordingly, the study findings which led to the rejection of the null hypothesis established that own-source revenue in selected county governments in Kenya was significantly and moderately positively influenced by Public Finance management practices. This is evident from the findings that there was moderate positive correlation between public financial management practices and own-source revenue. Effectively, this means that an enhancement in the quality of public financial management practices will increase own-source revenue in selected county governments in Kenya. The study therefore established that public financial management practices moderately but positively impacts the increase in own-source revenue in selected county governments in Kenya in several areas namely; OSR Composition, OSR Diversification, OSR Collection Efficiency, OSR Collection Effectiveness and OSR Growth. This confirms a statistically significant positive effect of that variation in own-source revenue can be explained by a unit change in public financial management practices on own-source revenue in selected county governments in Kenya hence the basis for rejection of the null hypothesis (H_{01}) that there is no significant relationship between public financial management practices on own-source revenue in selected county governments in Kenya.

The study second objective was assessed on the basis of the null hypothesis that there is no mediating effect of governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya. The study findings rejected the null hypothesis and established that governance framework partially mediates the relationship between public financial management practices and own-source

revenue in selected county governments in Kenya. The study revealed a moderate positive correlation between governance framework, public financial management practices, and own-source revenue. This indicates that as the quality of public financial management practices and governance frameworks improves, there is a tendency for own-source revenue to increase. The R-Square value implies that a substantial proportion of the variance in own-source revenue can be explained by the independent variables (public financial management practices and governance framework). This suggests that governance framework and public financial management practices play a significant role in revenue generation. Additionally, the relationship between public financial management practices and own-source revenue remains significant when the mediator governance framework is controlled. The study shows that governance framework is a partial mediator in the relationship between public financial management practices and own-source revenue. This can be demonstrated by the fact that the coefficient for public financial management practices and own-source revenue is significant, but it reduces when the mediator governance framework is introduced in the relationship between public financial management practices and own-source revenue. Therefore, this means that governance framework partially mediates the relationship between public financial management practices and own-source revenue by county governments in Kenya.

The third objective of the research was to explore the moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue in Kenya's county governments. The study's third null hypothesis stated that there is no moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue in Kenya's county governments. The findings rejected this hypothesis, demonstrating a significant moderating impact of technological infrastructure on the correlation between public financial management practices and own-source revenue. The analysis indicated that public financial management practices effectively predict own-source revenue, and the results confirmed a statistically significant interaction effect. The initial model showed a moderate positive correlation between public financial management practices and own-source revenue, explaining a substantial portion of the variance. When technological infrastructure was included as a moderating variable, the correlation improved, and the explanatory power of the model increased. This suggests that technological infrastructure makes a notable contribution to the model's ability to explain the relationship between public financial management practices and own-source revenue. The

model coefficients indicated a significant baseline expected own-source revenue and a strong positive relationship between public financial management practices and revenue generation. Notably, the interaction term's positive coefficient confirmed that technological infrastructure enhances this relationship. The results highlight the critical role of robust technological infrastructure in amplifying the effectiveness of public financial management practices, underscoring the importance for county governments to invest in technology and refine existing systems to optimize revenue generation.

The final objective of the study tested the moderated mediation model, also known as the conditional indirect effect, which occurs when the independent variable (public financial management practices) has a direct effect on the dependent variable (own-source revenue) and an indirect effect through the mediating variable (governance framework). Both the direct and indirect effects are influenced by the moderating variable (technological infrastructure). The model coefficients revealed that the direct association between public financial management practices and own-source revenue generated by county governments in Kenya was moderated by technological infrastructure. The bootstrapping results indicated that the index of moderated mediation is statistically significant. The direct relationship between public financial management practices and own-source revenue remains statistically significant, with a positive coefficient. The corresponding confidence interval for this relationship excludes zero, indicating robustness. Additionally, the interaction term representing the moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue is significant, with a positive coefficient and a confidence interval that does not include zero, further confirming the moderating role of technological infrastructure.

The study concludes that both the Confidence Interval (CI) for the indirect path, direct path, and the first and second interaction terms exclude zero, indicating that the moderator (technological infrastructure) influences the direct link between public financial management practices and own-source revenue in selected county governments in Kenya. This influence extends to the second half of the mediation, which involves the link between the governance framework and own-source revenue. Therefore, the study concludes that there is a significant moderated mediation effect of technological infrastructure and governance framework on the relationship between public financial management practices and own-source revenue in selected county governments in Kenya.

5.3 Study conclusions

The study reveals a generally positive perception of public finance management practices, technology infrastructure, and governance frameworks among respondents in county governments in Kenya. Respondents expressed confidence in the effectiveness of public finance management practices, highlighting the importance of optimizing own-source revenues, automating revenue collection, and utilizing the County Integrated Development Plan. Additionally, the adoption of technology, particularly mobile services and the Integrated Financial Management Information System, was viewed favorably for enhancing revenue collection efficiency and facilitating timely financial operations. The study also indicates that respondents appreciate the robustness of the governance framework, particularly its legal foundation and the value of public participation in the budgeting process, which fosters transparency and accountability. While the findings are largely positive, they also point to areas for improvement, such as enhancing anti-corruption measures and ensuring timely policy implementation. These insights are crucial for guiding policymakers and county officials in their efforts to strengthen public finance management and governance practices in the counties.

In conclusion the strong positive correlation between own-source revenue collection and public finance management practices indicates that improvements in financial management are closely linked to increased revenue generation, underscoring the significance of effective practices such as budgeting, transparency, and accountability in enhancing the revenue collection capabilities of county governments. Furthermore, the correlation between own-source revenue collection and technology infrastructure highlights the importance of technological advancements in optimizing revenue collection processes; investments in automated systems and digital platforms enable more streamlined operations, reduce leakages, and enhance overall financial performance, thereby illustrating the vital role of technology in modernizing revenue collection strategies. Additionally, the moderate positive correlation between own-source revenue collection and governance framework suggests that robust governance practices characterized by transparency, accountability, and public engagement are essential for fostering public trust and compliance, which are crucial for achieving financial sustainability. Collectively, these findings indicate that county governments in Kenya can significantly improve their own-source revenue collection by enhancing public finance

management practices, investing in technology infrastructure, and strengthening governance frameworks, as these interconnected factors are vital for creating an environment conducive to effective revenue generation and ensuring the financial sustainability of county governments.

The first objective of the study assessed the relationship between public financial management practices on own-source revenue in selected county governments in Kenya. In conclusion, the study shows a strong positive correlation between public financial management practices and the increase of own-source revenue for county governments in Kenya. Respondents widely recognize the effectiveness of these practices, especially in optimizing revenue strategies. The findings emphasize the critical importance of automated revenue collection in boosting efficiency and transparency, alongside the significant roles of Integrated Development Plans, stakeholder engagement, and compliance with public procurement regulations in fostering trust and accountability. Furthermore, the governance framework was shown to mediate the relationship between financial management practices and revenue generation, with a strong endorsement of legal frameworks and public participation in budgeting. Additionally, the study underscores the vital contribution of technological infrastructure, such as mobile payment systems and Integrated Financial Management Information Systems, in enhancing revenue collection processes. The results reinforce the necessity for robust public financial management practices and governance frameworks to effectively bolster the revenue generation capabilities of county governments in Kenya.

On the second objective, the study concluded that governance frameworks significantly mediate the relationship between public financial management practices and own-source revenue for county governments in Kenya, leading to the rejection of the null hypothesis. This indicates that as the quality of both public financial management practices and governance frameworks improves, there is a corresponding increase in own-source revenue. The findings suggest that public financial management practices and governance frameworks are positively correlated and also play a crucial role in influencing own-source revenue, with a notable portion of the variance in own-source revenue being explained by them. Consequently, policymakers and practitioners are encouraged to focus on enhancing public financial management practices through training, improved financial systems, and greater transparency. Additionally, strengthening governance frameworks is essential to create an environment conducive to effective governance, which includes establishing clear regulations and promoting stakeholder

engagement. An integrated approach that simultaneously enhances both public financial management practices and governance frameworks is recommended, as it may yield the most significant results in increasing own-source revenue. Ultimately, by prioritizing these areas, governments can enhance their revenue-generating capabilities, leading to improved public service delivery and greater economic stability.

In relation to the third objective of the study, the null hypothesis was rejected, which stated that there is no moderating effect of technological infrastructure on the relationship between public financial management practices and own-source revenue generated by county governments in Kenya. The research concluded that technological infrastructure significantly moderates the relationship between public financial management practices and own-source revenue in Kenya's county governments, leading to the rejection of the null hypothesis. The findings indicate that while public financial management practices are crucial for predicting own-source revenue, their effectiveness is heavily influenced by the quality of technological infrastructure in place. The analysis revealed that the introduction of technological infrastructure as a moderating variable enhanced the predictive power of the model, suggesting that robust technological systems can amplify the positive effects of financial management practices on revenue generation. However, it was also noted that the current technological infrastructure may not be adequately aligned with the needs of public financial management. This highlights the complex interplay between these elements, emphasizing the necessity for county governments to invest in and refine their technological capabilities to support effective financial management. Ultimately, the study underscores the importance of prioritizing technological investments alongside improvements in public financial management practices to optimize revenue outcomes, suggesting that a thorough assessment and alignment of existing technological infrastructure with revenue generation goals is essential for enhancing overall financial performance.

Finally, the study's findings reveal a significant moderated mediation effect of technological infrastructure on the relationship between public financial management practices and own-source revenue among county governments in Kenya. The analysis demonstrates that technological infrastructure not only moderates the direct relationship between public financial management practices and own-source revenue but also influences the indirect relationship through the governance framework. The results indicate that the effectiveness of public

financial management practices in generating revenue is contingent upon the level of technological infrastructure available, highlighting the critical role that technology plays in enhancing financial management systems. Furthermore, the consistent significance of the conditional indirect effect across varying levels of technological infrastructure suggests that investments in technology are essential for optimizing revenue outcomes. Consequently, the study rejects the null hypothesis, affirming that both technological infrastructure and governance frameworks significantly impact the dynamics of public financial management practices and revenue generation. This underscores the necessity for county governments to prioritize technological advancements alongside improving financial management practices to achieve better revenue performance.

5.4. Study Recommendations

The study provided recommendations based on the results derived from its four objectives. The primary aim of this research is to investigate the impact of public financial management practices, technological infrastructure, governance frameworks, and own-source revenue within county governments in Kenya.

5.4.1 Public financial management practices on own-source revenue in selected county governments in Kenya

The study recommends that county governments in Kenya enhance their public finance management practices by focusing on the optimization of own-source revenues and the automation of revenue collection processes. Given the positive perceptions regarding these efforts, counties should invest in advanced technology solutions to streamline revenue collection and improve efficiency. Additionally, the County Integrated Development Plan should be utilized more effectively as a primary planning document, ensuring that it incorporates community input to foster inclusivity and transparency. Strengthening the roles of Audit Committees and ensuring strict adherence to public procurement and asset disposal regulations will further enhance governance and compliance. Finally, continuous training and capacity-building initiatives for financial management personnel should be prioritized to maintain high standards of integrity and accountability in financial processes. By implementing these recommendations, county governments can build on the positive perceptions identified in the study and significantly improve their public finance management practices.

To further improve public financial management practices and increase own-source revenue, county governments should strengthen their governance frameworks and actively engage stakeholders in financial planning processes. The positive perceptions regarding the Audit Committee and adherence to public procurement regulations highlight the importance of robust governance structures. Counties should implement regular training sessions for governance bodies to ensure compliance and transparency. Moreover, the consultative nature of preparing planning documents should be expanded to include diverse community voices, fostering inclusivity and trust in the governance process. By enhancing these governance frameworks and promoting stakeholder engagement, county governments can create a conducive environment for effective financial management, ultimately leading to increased own-source revenue and enhanced community development.

5.4.2 Public financial management practices and governance framework on own-source revenue in selected county governments in Kenya

County governments in Kenya should prioritize strengthening their technology infrastructure to enhance public finance management and improve revenue collection processes. This includes investing in mobile services, which have demonstrated significant potential for increasing operational efficiency, as well as fully integrating the Integrated Financial Management Information System (IFMIS) into financial operations. Additionally, counties should implement features such as automatic tax fine generation and establish robust online customer care services to facilitate timely revenue generation and improve user experiences. To address variability in individual experiences, it is essential to develop comprehensive communication strategies and provide ongoing user support and training for both staff and citizens. By enhancing technology infrastructure, county governments can foster greater confidence in financial management practices and optimize their revenue generation capabilities.

To effectively mediate the relationship between public financial management practices and own-source revenue, policymakers must strengthen governance frameworks at the county level. This can be achieved by developing and enforcing clear legal regulations that promote transparency and accountability in financial management. Furthermore, stakeholder engagement should be institutionalized in budgeting processes to ensure that community voices are heard and that budgets reflect the needs and priorities of the public. Regular public forums and consultations can be established to facilitate this engagement. Additionally, promoting

public participation in the financial decision-making process will not only improve compliance but also build a culture of accountability and trust among citizens. By implementing these governance reforms, county governments can create an environment conducive to effective financial management, ultimately leading to enhanced own-source revenue generation and improved public service delivery.

Policymakers and practitioners should focus on enhancing governance frameworks alongside public financial management practices to create an environment conducive to increased own-source revenue. This can be achieved by establishing clear regulations, promoting stakeholder engagement, and providing targeted training for financial management personnel. Furthermore, enhancing transparency in financial practices will build public trust and accountability, ultimately leading to improved revenue outcomes. An integrated approach that simultaneously strengthens both governance frameworks and financial management practices is recommended, as this synergy is likely to yield the most significant results in boosting own-source revenue. By prioritizing these areas, county governments can enhance their revenue-generating capabilities, leading to better public service delivery and greater economic stability.

5.4.3 Public financial management practices and technological infrastructure on own-source revenue in selected county governments in Kenya

County governments in Kenya should prioritize the enhancement of technological infrastructure to effectively leverage public financial management practices and improve own-source revenue generation. Given the significant moderating effect demonstrated in the study, it is crucial for counties to invest in robust technological systems that facilitate efficient financial operations. This includes upgrading existing tools such as Integrated Financial Management Information Systems (IFMIS) and mobile payment platforms to enhance transparency, accuracy, and accessibility in revenue collection processes. Additionally, training programs should be implemented to equip financial management personnel with the skills to effectively utilize these technologies, ensuring that they can maximize their potential impact. By strengthening technological infrastructure, county governments can not only improve the direct relationship between financial management practices and revenue generation but also enhance the governance framework's effectiveness in mediating this relationship. Ultimately, these efforts will lead to increased own-source revenue, better public service delivery, and greater overall economic stability within the counties.

Policymakers should focus on implementing robust capacity-building initiatives to train county officials and stakeholders on the effective use of technological tools such as the Integrated Financial Management Information System (IFMIS) and mobile payment systems. The moderate standard deviations in the study results reflect varying levels of satisfaction and effectiveness, likely due to inconsistent implementation or gaps in knowledge among users. Targeted training programs and ongoing technical support can bridge these gaps, equipping officials with the necessary skills to maximize the potential of these technologies. This approach will not only ensure uniformity in adoption across counties but also improve efficiency in revenue collection, enhance compliance with financial regulations, and foster a positive user experience, ultimately supporting the growth of own-source revenue.

County governments should invest significantly in technological infrastructure to maximize the positive impact of public financial management practices on own-source revenue. The study's findings highlight the crucial moderating effect of technological infrastructure on the relationship between financial management practices and revenue generation. Counties should prioritize upgrading existing technological systems, such as Integrated Financial Management Information Systems and mobile payment solutions, to improve efficiency and transparency in revenue collection processes. Furthermore, training programs should be established to equip staff with the necessary skills to utilize these technologies effectively. By enhancing technological infrastructure, county governments can optimize their financial management practices and significantly boost their own-source revenue, leading to improved public services and community development.

5.4.4 Public financial management practices, governance framework and technological infrastructure on own-source revenue in selected county governments in Kenya

County governments in Kenya should prioritize the enhancement of technological infrastructure to effectively leverage public financial management practices and improve own-source revenue generation. Given the significant moderated mediation effect demonstrated in the study, it is crucial for counties to invest in robust technological systems that facilitate efficient financial operations. This includes upgrading existing tools such as Integrated Financial Management Information Systems (IFMIS) and mobile payment platforms to enhance transparency, accuracy, and accessibility in revenue collection processes. Additionally, training programs should be implemented to equip financial management personnel with the skills to effectively utilize these technologies, ensuring that they can

maximize their potential impact. By strengthening technological infrastructure, county governments can not only improve the direct relationship between financial management practices and revenue generation but also enhance the governance framework's effectiveness in mediating this relationship. Ultimately, these efforts will lead to increased own-source revenue, better public service delivery, and greater overall economic stability within the counties.

5.5 Suggestions for Future Research

The study advocates for an "integrated approach" to enhancing public financial management (PFM) and governance frameworks but does not fully examine the potential synergies or trade-offs that may arise when technological infrastructure (TI), governance, and PFM are improved simultaneously such as whether TI could amplify governance's mediating role in the PFM-own-source revenue (OSR) relationship or introduce new vulnerabilities like data privacy risks. To address this gap, future research should explore three critical questions: First, what synergistic effects might occur from concurrently improving TI, governance, and PFM on OSR for instance, whether a 1% improvement across all three domains yields multiplicative gains compared to isolated interventions? Second, how do governance frameworks mediate the relationship between TI and PFM, particularly whether strong governance structures enhance TI's moderating effect on PFM-OSR dynamics? Third, what unintended consequences, such as increased socioeconomic inequality, reduced public trust, or heightened fiscal centralization, could emerge from over-prioritizing TI or governance reforms at the expense of balanced integration? Methodologically, this research could employ multi-arm randomized trials to test various combinations of TI, governance, and PFM interventions across counties, qualitative comparative analysis (QCA) to identify necessary and sufficient conditions for OSR growth under integrated frameworks, and network analysis to map interdependencies between TI, governance, and PFM actors and systems. These approaches would yield holistic models for optimizing resource allocation across all three domains while developing risk mitigation strategies to address ethical, social, and operational trade-offs, ultimately supporting more effective, equitable, and sustainable revenue-generation strategies for county governments.

The study confirms a significant moderated mediation effect, where technological infrastructure (TI) influences both direct and governance-mediated pathways between public financial management (PFM) practices and own-source revenue (OSR), but its reliance on

cross-sectional data limits understanding of temporal dynamics such as how the interplay between TI, governance, and PFM evolves amid external shocks like economic crises, pandemics, or policy changes. To address this gap, future research should investigate three critical questions: First, how do the direct and indirect effects of TI on PFM-OSR relationships change over time, particularly following major reforms such as Kenya's devolution milestones or post-COVID-19 recovery? Second, what critical thresholds such as minimum TI quality or governance maturity are required for moderated mediation to yield significant OSR gains? Third, how do exogenous factors, including changes in national fiscal policies, natural disasters, or political transitions, disrupt or reinforce this moderated mediation effect? Methodologically, such research could employ panel data analysis tracking all 47 Kenyan counties over 10 or more years to model lagged effects and resilience; scenario-based modeling, such as system dynamics, to simulate how TI-governance-PFM synergies respond to stressors like revenue volatility or governance failures; and embedded research within county governments to observe real-time decision-making around TI and governance investments. These approaches would yield predictive models for anticipating how OSR responds to integrated improvements in TI and governance, supporting proactive policy design, and generate insights into building adaptive fiscal systems capable of withstanding external disruptions.

REFERENCES

- Abdille, O. A. (2022). Generation Of Own Source Revenue and Financial Sustainability in Garissa County, Kenya. (Unpublished Doctoral dissertation, Kenyatta University).
- Abelson, J., & Gauvin, F. P. (2006). *Assessing the impacts of public participation: Concepts, evidence and policy implications*. Ottawa: Canadian Policy Research Networks.
- Achieng, O. C., Tobias, M., & Mose, T. (2022). ICTs And Revenue Collection In Nairobi City County Government, Kenya. *International Research Journal of Business and Strategic Management*, 4(1).
- Adam, A. K., & Suleiman, E. S. (2018). A Contextual Framework of Henry Fayol's 14 Principles of Management for Public Sector Efficiency and Effectiveness of Policy Responsibilities by a Government. *Journal of Advanced Research in Business and Management Studies*, 11(1), 46-61.
- Adams, D.A., Nelson, R.R. & Todd, P.A. (1992). Perceived Usefulness, Ease of Use, and Usage of Information Technology: A Replication. *MIS Quarterly*, 16 (2), 227.
- Adekoya, A. A. (2023). Public Financial Management in Nigeria: The goals, concepts, legal and institutional framework, and reforms for good governance. *International Journal of Management and Economics Invention*, 9(05), 2935-2946.
- Alavuotunki, K., Haapanen, M., & Pirttilä, J. (2019). The effects of the value-added tax on revenue and inequality. *The Journal of development studies*, 55(4), 490-508.
- Alchian, A. A., & Demsetz, H. (1972). Production, information costs, and economic organization. *The American economic review*, 62(5), 777-795.
- Al-Gahtani, S.S. (2016). Empirical investigation of e-learning acceptance and assimilation: A structural equation model. *Applied Computing and Informatics*, 12 (1), 27-50.
- Ali, A. J., Fuenzalida, J., Gómez, M., & Williams, M. J. (2021). Four lenses on people management in the public sector: An evidence review and synthesis. *Oxford Review of Economic Policy*, 37(2), 335-366.
- Allan, I. J. (1993). *Revenue collection administration: a guide for smaller governments*. Government Finance Officers Association.
- Araújo, T. & Casais, B. (2020). Customer Acceptance of Shopping-Assistant Chatbots. *Marketing and Smart Technologies*, 278-287.
- Aslam, A., Delepierre, S., Gupta, R., & Rawlings, H. (2022). Revenue Mobilization in Sub-Saharan Africa during the Pandemic. *International Monetary Fund*.

- Augustine, A. A. (2022). Budgeting techniques and budgetary control in local governments: Participatory budgeting a critical instrument for sustainable development. *International Journal of Management and Economics Invention*, 8(11), 2682-2693.
- Bera, A. K., & Jarque, C. M. (1981). Efficient tests for normality, homoscedasticity and serial independence of regression residuals: Monte Carlo evidence. *Economics Letters*, 7(4), 313-318.
- Bhardwaj, P. (2019). Types of sampling in research. *Journal of the Practice of Cardiovascular Sciences*, 5(3), 157.
- Bhattacharjee, A. (2012). Social science research: Principles, methods, and practices. USA.
- Birchall, J., & Fontana, M. (2015). The gender dimensions of expenditure and revenue policy and systems. *BRIDGE, Institute of Development Studies: United Kingdom*, 13, 23.
- Bloomfield, J., & Fisher, M. J. (2019). Quantitative research design. *Journal of the Australasian Rehabilitation Nurses Association*, 22(2), 27-30.
- Boas, T. C., & Gans-Morse, J. (2009). Neoliberalism: From new liberal philosophy to anti-liberal slogan. *Studies in comparative international development*, 44(2), 137-161.
- Bontems, P., & Gozlan, E. (2018). Trade, environment, and income inequality: An optimal taxation approach. *Journal of Public Economic Theory*, 20(4), 557-581.
- Bourne, V., James, A. I., Wilson-Smith, K., & Fairlamb, S. (2021). Understanding quantitative and qualitative research in psychology: A practical guide to methods, statistics, and analysis. *Oxford University Press*.
- Breusch, T. S. (1978). Testing for Autocorrelation in Dynamic Linear Models. *Australian Economic Papers* 17 (31): 334– 355. doi:10.1111/j.1467-8454. 1978.tb00635. x.
- Bruner, G.C. & Kumar, A. (2005). Explaining consumer acceptance of handheld Internet devices. *Journal of Business Research*, 58 (5), 553-558.
- Buchanan, J. M. (1986). *The Constitution of Economic Policy. Nobel Prize. The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel*. Retrieved from <https://www.nobelprize.org/prizes/economic-sciences/1986/buchanan/lecture/>
- Cazeaux, C. (2017). *Art, research, philosophy* (p. 202). Taylor & Francis. URI
- Chacha, C. K., Nyangau, A., & Omare, M. (2021). The moderating effect of government policy on the relationship between revenue collection practices and financial accountability of Rorya district council in Tanzania. *International Academic Journal of Economics and Finance*, 3(6), 302-316.

- Cheronoh, B. (2019). *Determinants of Local Revenue enhancement in Nairobi City County* (Doctoral dissertation, University of Nairobi).
- Cohen, L. Manion, L. & Morrison, K. (2007). *Research methods in education. (6th Ed.)*. London: Routledge Falmer
- Chilunjika, A. (2018). *The performance of automated toll revenue mobilisation systems in Zimbabwe* (Doctoral dissertation, University of Johannesburg (South Africa)).
- Commission on Revenue Allocation (CRA), (2023). County Governments Consolidated Financial Statements for the Year Ended 30th June 2023. <https://cra.go.ke/download/report-on-county-assemblies-own-source-revenue-training2/>
- Controller of Budget. (2024). County Governments Budget Implementation Review Report FY 2023/24. <https://cob.go.ke>
- Collins, H. (2018). *Creative research: the theory and practice of research for the creative industries*. Design management (1). Switzerland: AVA. <http://oro.open.ac.uk/57775/>
- Cooper, D., & Schindler, P. (2014). Business Research Methods. *Social Research*, (12th Edition), 792
- CIPFA. (2009). Public Financial Management and the PFM International Architecture – A Whole System Approach. Retrieved from London: https://blog-pfm.imf.org/files/pfm_ia_whole_system_approach1.pdf.
- Davis, F. D.; Bagozzi, R. P.; Warshaw, P. R. (1989), "User acceptance of computer technology: A comparison of two theoretical models", *Management Science*, 35 (8): 982–1003.
- Davis, F.D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13 (3), 319.
- De Mooij, R., Fenochietto, R., Hebous, S., Leduc, S., & Osorio-Buitron, C. (2020). Tax policy for inclusive growth after the pandemic. *IMF COVID-19 Special Notes, International Monetary Fund, Washington DC December*.
- De Paepe, G., Hart, T. & Long, C. (2017). Domestic resource mobilization and the transition to sustainable development: Synthesis of Asia case studies. Overseas Development Institute Report. <https://www.odi.org/sites/odi.org.uk/files/resource-documents/11753.pdf>
- Dobson, P. J. (2002). Critical realism and information systems research: why bother with philosophy. *Information Research*, 7(2), 7-2.

- Doe, J., Van de Wetering, R., Honyenuga, B., & Versendaal, J. (2019). Firm technology adoption model (f-tam) among sme's: an interactive eco-system perspective. *IADIS International Journal on Computer Science & Information Systems*, 14(1).
- Donald, M. K., Guyo, W., & Moronge, M. (2020). *Moderating Effect of Public Participation on the Relationship Between Political and Economic Relations on Service Delivery of County Governments in Kenya*.
- Drucker, P., F. (1990). *Managing the Nonprofit Organization: Practices and Principles*. New York: Harper Collins
- Dudine, P., & Jalles, J. T. (2018). How buoyant is the tax system? New evidence from a large heterogeneous panel. *Journal of International Development*, 30(6), 961-991.
- Endeki, D. N., & Minja, D. (2021). Role of new public management practices in service delivery in the public sector: case of the state department of public works-Kenya. *International Academic Journal of Arts and Humanities*, 1(2), 188-209.
- Farrell, C., Hatcher, W., & Diamond, J. (2022). Reflecting on over 100 years of public administration education. *Public Administration*, 100(1), 116-128.
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE Publications.
- Feldman, M. S., & Khademian, A. M. (2001). Principles for public management practice: From dichotomies to interdependence. *Governance*, 14(3), 339-361.
- Fölscher, A., Mkandawire, A., & Faragher, R. (2012). Evaluation of Public Financial Management Reform in Malawi 2001–2010.
- Foley Curley, K. (1984). Are there any real benefits from office automation?. *Business Horizons*, 27 (4), 37-42.
- Frederickson, H. G., Smith, K. B., Larimer, C. W., & Licari, M. J. (2018). *The public management practices theory primer*. Routledge.
- Freeman, R. E. (1994). The politics of stakeholder theory: Some future directions. *Business*
- Freeman, R. E., & Reed, D. L. (1983). Stockholders and stakeholders: A new perspective on corporate governance. *California management review*, 25(3), 88-106.
- Gerritsen, A. (2016). Optimal taxation when people do not maximize well-being. *Journal of Public Economics*, 144, 122-139.
- Giorcelli, M. (2021). The origin and development of firm management. *Oxford Review of Economic Policy*, 37(2), 259-275.

- Gituma, H. K. (2017). *Determinants of effective revenue collection by Embu County, Kenya* (Doctoral dissertation, University of Embu).
- Good, M., Spine, T.M., Whiteside, J. & George, P. (1986). User-derived impact analysis as a tool for usability engineering.
- González Aguirre, J., & Del Villar, A. (2022). Effect of the Complexity of the Customs Tax System on the Tax Effort. *Economies*, 10(3), 55.
- Gore, A. (1994). The New Job of the Federal Executive. *Public management practices Review* 54:317–321.
- Gould, J.D. & Lewis, C. (1985). Designing for usability: key principles and what designers think. *Communications of the ACM*, 28 (3), 300-311.
- Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2016). Multivariate data analysis (6th ed.). *Upper saddle River, N.J.: Pearson Prentice Hall*.
- Hasan, A., & Megantara, E. N. (2021). The public participation shifting of environmental impact assessment during Covid-19 outbreak. *In E3S Web of Conferences* (Vol. 249, p. 01009). EDP Sciences.
- Hatch, M.J., & Cunliffe, A.L. (2006). *Organization Theory* (2nd ed.). *Oxford University Press, Oxford*.
- Herdiansyah, M. I., & MUKRAN, M. (2022). The Model Strategy of Improvement of the Public Services Quality and Optimization of the District Own Source Revenue to the Government of Palembang, Indonesia. *The Model Strategy of Improvement of the Public Services Quality and Optimization of the District Own Source Revenue to the Government of Palembang, Indonesia*.
- Hertzog, M. A. (2018). Considerations in determining sample size for pilot studies. *Research in nursing & health*, 31(2), 180-191.
- Hindriks, J., Keen, M., Muthoo, A. (1999). “Corruption, Extortion and Evasion”. *Journal of Public Economics* 74, 395–430.
- Hinson, R. E., Madichie, N., Adeola, O., Nyigmah Bawole, J., Adisa, I., & Asamoah, K. (2022). New public management in Africa: An introduction. *In New Public Management in Africa* (pp. 1-15). Palgrave Macmillan, Cham.
- Hobbes, T. (1651). *Leviathan*. Retrieved from <https://www.gutenberg.org/files/3207/3207-h/3207-h.htm>
- Huemann, M., Eskerod, P., & Ringhofer, C. (2016). *Rethink! project stakeholder management*. Project Management Institute, Incorporated.

- https://www.projectmanagement.com/pdf/Rethink_Project_Stakeholder_Management.pdf
- ICMA.(2022).*County Government Structure in Kenya*. <https://icma.org/articles/article/county-government-structure-kenya>
- IMF. (2018). *Regional Economic Outlook: Sub-Sahara Africa*, April.
- Inam, Y. (2020). *Unlocking The Financial Potential of Local Government-Owned Land and Buildings In Sub-Saharan Africa* (Doctoral dissertation, Harvard University).
- Institute of Economic Affairs (2017). *Enhancing Mobilization of Own Source Revenue in Nairobi City County: Issues and Opportunities*. [Enhancing_Mobilization.pdf](#)
- Jarso, S. A. (2023). *Financial Management Practices and Service Delivery by Isiolo County Government, Kenya* (Doctoral dissertation, Kenyatta University).
- Jepkoech, J. (2020). Relationship between revenue staff competence and revenue collection efficiency in Nandi County government. *Reviewed Journal International of Financial Management*, 2(1), 10-22.
- Jepkoech, J. (2021). *Operational Determinants and Revenue Collection Efficiency in County Government of Nandi, Kenya* (Doctoral dissertation, MMUST).
- Josheski, D., & Boshkov, T. (2019). Optimal taxation in theory. *Available at SSRN* 3390397.
- Kalayou, M. H., Endehabtu, B. F., & Tilahun, B. (2020). The applicability of the modified technology acceptance model (TAM) on the sustainable adoption of eHealth systems in resource-limited settings. *Journal of multidisciplinary healthcare*, 1827-1837.
- Kamara, R. (2021). *The Effect of Tax Administration on Tax Revenue Collection in Kenya Revenue Authority* (Doctoral dissertation, University of Nairobi).
- Kant, I. (1785). *Groundwork of the Metaphysics of Morals*. Retrieved from <https://www.gutenberg.org/files/5682/5682-h/5682-h.htm>
- Karimi, H., Maina, K. E., & Kinyua, J. M. (2023). Effect of technology and information systems on revenue collection by the county government of Embu, Kenya. *International Academic Journal of Information Systems and Technology*, 2(1), 19-35
- Keshine, A. (2018). *The Role Of Public Participation In Enhancing Budget Making Process: The Case Of Laikipia County* (Doctoral dissertation, University of Nairobi).
- Kenya Institute for Public Policy Research and Analysis. (2024, January 8). Enhancing Own Source Revenue Collections Across Counties in Kenya. <https://kippra.or.ke/enhancing-own-source-revenue-collections-across-counties-in-kenya/>

- Kenya Law Reform Commission. (2025). Article 203: Equitable share and other financial laws. <https://www.klrc.go.ke>
- Kiema, J. (2017). *Effects of ICT Support Services on Revenue Collection by Kenya Revenue Authority* (Doctoral dissertation, University of Nairobi).
- Kijalo, Z. (2013). *Contribution of councilors in own revenue sources collection. A case study of Kigoma Ujiji/ Municipal council*. Published MSC-LGM Dissertation, Mzumbe University, Tanzania
- Kimutai, D. B. (2017). *Revenue Mobilization Approaches and their influences on County Socio-Economic Development in North Rift Region, Kenya*. Moi University Unpublished thesis submitted to the school of Human Resource Development for award of degree of Doctor of Philosophy in Development Studies
- Kinyua, C. N. (2019). Effect of information technology on tax administration and performance by Kenya Revenue Authority (KRA): *A study of sameer park branch*.
- Kirer, G. (2024). *Agency Revenue Collection, Automation and Own Source Revenue Targets among Selected County Governments in Kenya* (Doctoral dissertation, UOK).
- Kivunja, C., & Kuyini, A. B. (2017). Understanding and applying research paradigms in educational contexts. *International Journal of higher education*, 6(5), 26-41.
- KRA. (2022). *KRA Exceeds Revised Target, Records Highest Revenue Growth in History*. <https://www.kra.go.ke/news-center/press-release/1752-kra-exceeds-revised-target,-records-highest-revenue-growth-in-history>
- Kuckertz, A., & Brändle, L. (2021). Creative reconstruction: a structured literature review of the early empirical research on the COVID-19 crisis and entrepreneurship. *Management Review Quarterly*, 1-27.
- La Foy, G. B. (2020). *Local Government in the Constitutional Dispensation: Defining the Limits of Local Government's Legislative and Executive Authority* (Doctoral dissertation, University of KwaZulu-Natal, Pietermaritzburg).
- Laban, M.W., Muthinja, M. (2023). Effects of revenue collection automation on the performance of Own Source Revenue in Nyandarua County Kenya. *International Academic Journal of Arts and Humanities*, 1(3), 226-247.
- Lawson, A. (2015). Public Financial Management. *GSDRC Professional Development Reading Retrieved from Birmingham, UK:*
- Ligeyo, V. O. (2019). *System Automation And Revenue Collection In Siaya County Government, Kenya* (Doctoral dissertation, University Of Nairobi).

- Liou, K. T. (Ed.). (2001). *Handbook of public management practice and reform*. CRC Press.
- Manis KT, Choi D (2019) The virtual reality hardware acceptance model (VR-HAM): extending and individuating the technology acceptance model (TAM) for virtual reality hardware. *J Bus Res* 100 (January 2018):503–513.
- Maira, N. (2021). *The role of digital technology on local government authorities Own Source Revenue in Singida region* (Doctoral dissertation, The University of Dodoma).
- Makoza, F. (2022). A Review of Critical Studies on National ICT Policy in the Context of Africa. *International Journal of Information Systems and Social Change (IJISSC)*, 13(1), 1-22.
- Malangalila, J. G. (2019). *Factors influencing Own Source Revenue in local government authorities in Tanzania: a case study of Mpwapwa and Kongwa District Councils* (Doctoral dissertation, Mzumbe University).
- Malangalila, J. G. (2019). *Factors influencing Own Source Revenue in local government authorities in Tanzania: A case study of Mpwapwa and Kongwa District Councils* (Doctoral dissertation, Mzumbe University).
- Mallick, H. (2021). Do governance quality and ICT infrastructure influence the tax revenue mobilisation? An empirical analysis for India. *Economic Change and Restructuring*, 54(2), 371-415.
- Marikyan, D.& Papagiannidis, S. (2024) *Technology Acceptance Model: A review*. In S. Papagiannidis (Ed), TheoryHub Book.
- Masawa, O. K. (2019). *Analysis of socio-economic factors affecting revenue collection in Kenya: a case of Siaya county* (Doctoral dissertation, Maseno University).
- Mbau, E. P. (2019). *Fiscal Decentralization, Allocative Efficiency, Public Governance and Performance of County Governments in Kenya* (Doctoral dissertation, University of Nairobi).
- Mbegu, S., & Komba, L. (2017). Own Source Revenue Slippage in Tanzania’s Local Government Authorities (LGAs), Trend, Challenge and Impact: Evidence from Magu District Council. *Developing Country Studies*, 7(11), 73-80.
- Meyer, J.W. and Rowan, B. (1977), “Institutionalized organizations: formal structure as myth and ceremony”, *American Journal of Sociology*, Vol. 83 No. 2, pp. 340-363
- Mgonja, M. G., & Poncian, J. (2019). Managing revenue collection outsourcing in Tanzania’s local government authorities: a case study of Iringa Municipal Council. *Local Government Studies*, 45(1), 101-123.

- Mirrlees, J. A. (1986). The theory of optimal taxation. *Handbook of mathematical economics*, 3, 1197-1249.
- Mueller, D. C. (2003). Public Choice Theory. In *The Oxford Handbook of Public Choice* (pp. 3-28). *Oxford University Press*.
- Mueller, D. C. (2019). Public Choice Theory. In *The Palgrave Encyclopedia of Interest Groups, Lobbying and Public Affairs* (pp. 1-5). *Palgrave Macmillan*.
- Mugenda, M. & Mugenda (2013). *Research Methods: Qualitative and Quantitative approaches*. *Nairobi: Act Press*
- Muhammed, A. (2014). A Critical Analysis of Public Financial Management Reform in Ethiopia and Tanzania. *Developing Country Studies*, 4(9), 130-141.
- Muhammed, A. (2018). A critical analysis of public financial management reform in Ethiopia and Tanzania. *Developing Country Studies*, 4(9), 130-142.
- Munguti, G. M. (2022). *Enhancing County Governments Own Source Revenue: A Case Study of County Government of Machakos, Kenya* (Doctoral dissertation, California Southern University).
- Muigua, K. (2021). Upholding Human Rights and Meaningful Public Participation in Development Projects. *Jcmsd* 6(4), 1 – 38.
- Musa, J. (2020). Effect of customer service reforms on tax revenue collection: a case of Mandera County in Kenya.
- Musleh, U. A. (2017). Local Government Decentralization Efforts for Revenue/Resource Mobilization in Developing Countries: Rhetoric or Realities in Bangladesh. *Journal of East Asian Studies*, 15, 215-257.
- Mutua, J., & Wamalwa, N. (2017). *Enhancing Mobilization of Own Source Revenue in Nairobi City County: Issues and Opportunities*. [https:// www.africaportal.org/publications/enhancing-mobilization-own-source-revenue-nairobi-city-county-issues-and-opportunities/](https://www.africaportal.org/publications/enhancing-mobilization-own-source-revenue-nairobi-city-county-issues-and-opportunities/)
- Mutua, J., & Wamalwa, N. (2017). *Enhancing Mobilization of Own Source Revenue in Nairobi City County: Issues and Opportunities*. *Institute of Economic Affairs*. ISBN No: 978-9966-1922-3-3
- Muthomi, D. (2024). The nexus between revenue decentralization reforms and economic growth. *Public Budgeting & Finance*. <https://onlinelibrary.wiley.com/doi/10.1111/pbaf.12456>

- Mwitwa, J., Mwila, R., & Mweemba, B. (2018). Policy and Institutional Review for biodiversity conservation in Zambia. *Policy Brief*, 1.
- Namaiko, P. (2020). *An Assessment of Implementation of the Information Communication Technology (ICT) Policy in Selected Secondary Public schools in Lusaka District* (Doctoral dissertation).
- National Treasury, (2021). Press Statement – Transfers to County Governments. <https://www.treasury.go.ke/press-releases/>
- Ndakalu, S. C. (2022). *Employment Of Integrated Approaches and Growth of Revenue Collection In Kakamega County, Kenya* (Doctoral Dissertation, Kenyatta University).
- Ngoyoni, C. (2021). *Influence of Public Participation on Service Delivery in Counties in Kenya: The Case of Isiolo County* (Doctoral dissertation, University of Nairobi).
- Ngure, K. M., Kananu, A., Munini, M. E., Evusa, Z., Ndirangu, A. W., & Sisimonda, K. M. (2019). *Factors influencing optimal revenue collection in Kitui county government*. (Doctoral dissertation, South Eastern Kenya University).
- Night, S., & Bananuka, J. (2020). The mediating role of adoption of an electronic tax system in the relationship between attitude towards electronic tax system and tax compliance. *Journal of Economics, Finance and Administrative Science*, 25(49), 73-88.
- Nord, J. H., Koohang, A., & Paliszkievicz, J. (2019). The Internet of Things: Review and theoretical framework. *Expert Systems with Applications*, 133, 97-108.
- Nyagah, C. F., & Njoka, C. (2022). Public Participation and Public Finance Management Performance in Embu County Government, Kenya. *International Journal of Current Aspects in Finance, Banking and Accounting*, 4(1), 104-122.
- Nyaranga, M. S., Hao, C., & Hongo, D. O. (2021). The Role of Public Participation in Governance towards Achieving Sustainable Development. Part 1. *RUDN Journal of Public management practices*, 8(4), 395-404.
- Ochuodho, H., & Ngaba, D. (2020). Revenue administration strategies and financial performance of county government of Kisumu, Kenya. *International Journal of Economics, Business and Management Research*, 4(12), 230-251.
- Odanga, V. (2019). *Revenue diversification in counties with a focus on Own Source Revenue Collections* (Doctoral dissertation, Strathmore University).
- OECD. (2021). *OECD Work on Taxation*. <https://www.oecd.org/tax/centre-for-tax-policy-and-administration-brochure.pdf>

- Ogeatum, J. (2015). *Factors affecting local government revenue collection: A case study of Soroti Municipality* (Doctoral dissertation, Makerere University).
- Okeyo, T. (2023). *Fiscal decentration and the enhancement of county Own Source Revenue: a study of the dynamics of implementation of Busia countycess act* (Doctoral dissertation, Maseno University).
- Ongeri, R. N., Magutu, P. O., & Litondo, K. (2020). The Moderating Effect of Information Technology Infrastructure on the Relationship between Business Process Re-Engineering Strategy and Performance of Food Manufacturing Companies in Kenya. *DBA Africa Management Review*, 10(4), 71-91.
- Owandho, B. A. (2020). *Factors affecting Revenue Collection by County Governments in Kenya*.
- Owidhi, H., J. (2018). *Effect Of Automation System Outcomes On Revenue Collection Of Nakuru County Government, Kenya* (Doctoral Dissertation, Kisii University).
- Owino, L. A. (2020). *Influence of staff comptencies on Revenue collection in Customs and Border Control Department: a case study of Busia Border Station*.
- Owuori, P. J., Ngala, M., & Obwatho, S. (2021). Moderating Effect of Governance Principle Application on The Mediation Effect of Technological Capability. *African Journal of Emerging Issues*, 3(3), 11–32.
- Pagarra, F. (2023). Barriers in Public Sector Innovation: Case Study in Increasing Local Own-Source Revenue in Makassar City. *KnE Social Sciences*, 405-414.
- Palachy, S. (2019). Stationarity in time series analysis. Recuperado desde <https://towardsdatascience.com/stationarity-in-time-series-analysis-90c94f27322>.
- Polinsky, A. M., & Shavell, S. (2000). The Economic Theory of Public Enforcement of Law. *Journal of Economic Literature*, 38(1), 45–76. <http://www.jstor.org/stable/2565359>
- Polinsky, A. M., & Shavell, S. (2005). *The Theory of Public Enforcement of Law*. Chapter 06 in Handbook of Law and Economics, 1, pp 403-454. [http://dx.doi.org/10.1016/S1574-0730\(07\)01006-7](http://dx.doi.org/10.1016/S1574-0730(07)01006-7)
- Porter, M. E., & Kramer, M. R. (2019). Creating shared value. In *Managing sustainable business*. Lenssen, G.G., Smith, N.C., Eds. Springer, Dordrecht. ISBN 978-94-024-1144-7
- Qanchora, R. A. (2021). *Institutional-Based Strategies for Enhancing Mobilization of Own-Source Revenue in Isiolo County* (Doctoral dissertation, KeMU).

- Qanchora, R. A., Gichohi, P., & Kambura, S. (2021). Assessment of Innovative Money-Collecting Systems Strategy for Mobilizing Own-Source Revenue in Isiolo County Government. *Journal of Finance & Accounting*, (1)2, 10 – 22.
- Quinn, S., & Scur, D. (2021). Management practices and public policy: an overview. *Oxford Review of Economic Policy*, 37(2), 221-230.
- Ramayani, C., Zainuddin, S. A. B., Said, N. B. M., Samudra, A. A., Areva, D., Harini, G., & Selvia, N. (2023). Application of Technology Acceptance Model (TAM) in the Adoption of Accounting Information System (AIS) Among Indonesia Private Universities. In *Finance, Accounting and Law in the Digital Age: The Impact of Technology and Innovation in the Financial Services Sector* (pp. 419-428). Cham: Springer International Publishing
- Ramsey, F. P. (1927). A Contribution to the Theory of Taxation. *The economic journal*, 37(145), forty-seven (47)-61.
- Reed, M. S., Vella, S., Challies, E., De Vente, J., Frewer, L., Hohenwallner-Ries, D., ... & van Delden, H. (2018). A theory of participation: what makes stakeholder and public engagement in environmental management work?. *Restoration ecology*, 26, S7-S17.
- Republic of Kenya. (2017). Draft *National Policy to Support Enhancement of County Governments' Own-Source Revenue*.
- Ringim, K. J., Razalli, M. R., & Hasnan, N. (2019). Moderating effect of Information technology (IT) capability on the relationship between business process reengineering factors and organizational performance of Bank. *African Journal of Business Management*, 6(16), 5551
- Saez, E., & Stantcheva, S. (2016). A Simpler Theory of Capital Taxation. *Journal of Public Economics*.
- Sande, D. A., Okiro, K., Wanjare, J., & Omoro, N. (2023). Mediating Effect of Public Participation on the Relationship between Budgeting Practices and Financial Performance of County Governments in Kenya. *Journal of Finance and Accounting*, 7(5), 78–94. <https://doi.org/10.53819/81018102t30104>
- Salmerón, R., García, C. B., & García, J. (2018). Variance inflation factor and condition number in multiple linear regression. *Journal of Statistical Computation and Simulation*, 88(12), 2365-2384.
- Sausi, J. M., Kitali, E. J., & Mtebe, J. S. (2021). Evaluation of local government revenue collection information system success in Tanzania. 3(5), 437-455.

- Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research Methods for Business Students. Business (Vol. 5th)*.
- Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research Methods for Business Students (8th ed.)*. Pearson.
- Sergejeff, K., Karaki, K., Ronceray, M., & Apiko, P. (2024). *European and African financing for health and universal health coverage*.
- Sudeshna, D., & Datt, S. (2016). *Importance of research approach in research*. <https://www.projectguru.in/selecting-research-approach-business-studies/>
- Scott, W.R. (1987), "The adolescence of institutional theory", *Administrative Science Quarterly*, Vol. 32 No. 4, pp. 493-511.
- Scott, W.R. (2004), "Reflections on half a century of organizational psychology", *Annual Review of Sociology*, Vol. 3, pp. 1-2
- Sidhu, N., Jain, A., Shukla, Y., Patil, T. B., & Sawant-Patil, S. T. (2018). Automated Toll Collection coupled with Anti-theft & Vehicle Document Verification System using RFID and Arduino Uno. *International Journal of Computer Sciences and Engineering*.
- Singh, N., Sinha, N. & Liébana-Cabanillas, F.J. (2020). Determining factors in the adoption and recommendation of mobile wallet services in India: Analysis of the effect of innovativeness, stress to use and social influence. *International Journal of Information Management*, 50, 191-205.
- Tabachnick, B. G., & Fidell, L. S. (2019). *Using Multivariate Statistics (6th ed.)*. Boston, MA: Pearson.
- Taek, F. M., Djhamhuri, A., & Baridwan, Z. (2020). Management of local own-source revenue in Belu Government: a phenomenological study. *Jurnal Ilmiah Akuntansi dan Bisnis*, 15(2), 172-186.
- Tashakkori, A., & Teddlie, C. (2003). Issues and dilemmas in teaching research methods courses in social and behavioural sciences: US perspective. *International journal of social research methodology*, 6(1), 61-77.
- Tashakkori, A., Teddlie, C., & Teddlie, C. B. (1998). *Mixed methodology: Combining qualitative and quantitative approaches (Vol. 46)*. sage.
- Thadewald, T., & Büning, H. (2007). Jarque–Bera test and its competitors for testing normality—a power comparison. *Journal of applied statistics*, 34(1), 87-105.

- Taherdoost, H., (2016). Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research. *International Journal of Academic Research in Management*. 5, 28-36.
- Thatcher, R. W. (2010). Validity and reliability of quantitative electroencephalography. *Journal of Neurotherapy*, 14(2), 122-152
- The National Treasury & Planning. (2022). *Broadening Revenue Streams on Own Source Revenue For Counties*. <https://www.pfmr.go.ke/broadening-revenue-streams-on-own-source-revenue-for-counties/>
- The National Treasury. (2017). Draft *National Policy to Support Enhancement of County Governments' Own-Source Revenue*. <https://countytoolkit.devolution.go.ke/sites/default/files/resources/Draft%20National%20Policy%20to%20SupportEnhancement%20of%20County%20Governments%20Own-Source%20Revenue.pdf>
- The Office of The Auditor-General. (2018). *The Auditor-General Report of the Auditor-General on the Financial Statements of County Executive of Nakuru for the Year Ended 30 June 2018*. <https://www.oagkenya.go.ke/wp-content/uploads/2021/09/County-Executive-of-Nakuru-2017-2018.pdf>
- The Office of The Auditor-General. (2019a). *Report of the Auditor-General on County Executive of Machakos for The Year Ended 30 June 2019*. <https://www.oagkenya.go.ke/wp-content/uploads/2021/09/County-Executive-of-Machakos-2018-2019.pdf>
- The Office of The Auditor-General. (2019b). *Report of the Auditor-General on County Executive of Mombasa for The Year Ended 30 June 2019*. <https://www.oagkenya.go.ke/wp-content/uploads/2021/09/County-Executive-of-Nakuru-2017-2018.pdf>
- Thrusfield, M., & Brown, H. (2017). Surveys. In *Veterinary Epidemiology: Fourth Edition* (pp. 270-295). Wiley-Blackwell.
- Tsumba, S. A. (2020). *Determinants Of Revenue Collection in County Governments in Kenya* (Doctoral dissertation, KCA University).
- Tullock, G. (1987). James M. Buchanan: A Biographical Sketch. In J. M. Buchanan, *The Collected Works of James M. Buchanan: Volume 20: Politics by Principle, Not Interest* (pp. xi–xxiii). *Liberty Fund*
- UNDP. (2021, September 22). *County's Own-Source Revenue for Sustainable Development*. Retrieved April 1, 2022, from <https://www.ke.undp.org/content/kenya/>

en/home/blog/2021Blogs/county-own-source-revenue-for-sustainable-development.html

- UN-Habitat. (2015). *The challenge of local government financing in developing countries*.
https://sustainabledevelopment.un.org/content/documents/1732The%20Challenge%20of%20Local%20Government%20Financing%20in%20Developing%20Countries%20_3.pdf
- Venkataraman, S. (2002). Stakeholder value equilibration and the entrepreneurial process. R. E. Freeman, S. Venkataraman, eds. *The Ruffin Series of the Society for Business Ethics*, 3, 45-57.
- Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision sciences*, 39(2), 273-315.
- Wakwabubi, M. J., Nkundabanyanga, S. K., Orobia, L., & Kaawaase, T. K. (2023). Local governance and financial distress in local governments: the mediating role of delivery system. *Transforming Government: People, Process and Policy*.
- Wambui, K. M. (2018). Influence of financial management practices on the revenue collection performance of Kajiado county government, Kenya (Doctoral dissertation).
- Wagana, D. M., Iravo, M. A., Nzulwa, J. D., & Kihoro, J. M. (2017). *The moderating effects of E-Government on the relationship between administrative decentralization and service delivery in county governments in Kenya*.
- Wang, Z., Ren, H., Shen, Q., Sui, W., & Zhang, X. (2021, June). Seismic performance evaluation of a steel tubular bridge pier in a five-span continuous girder bridge system. *In Structures*. 31(1), pp. 909–920, 2021
- Wangui, C., Muhoho, J., & Kahuthia, J. (2021). Effect of Organisational Structure on Performance of County Governments in the Central Region, Kenya. *Journal of Business Studies Quarterly*, 11(1), 1-17.
- Wawire, N. (2020). Constraints to enhanced revenue mobilization and spending quality in Kenya. *Policy Paper*, 163. <https://www.cgdev.org/sites/default/files/PP163-Enhanced-Revenue-Kenya-Full.pdf>
- Whisman, M. A., & McClelland, G. H. (2005). Designing, testing, and interpreting interactions and moderator effects in family research. *Journal of family psychology*, 19(1), 111.
- World Bank. (2024). Own-Source-Revenue-Potential-and-Tax-Gap-Study-of-Kenya.
<https://documents.worldbank.org/en/publication/documents-reports/documentdetail/>

- Yin, J. (2003). “*Effective Partnership and Good Governance: Lessons for Policy and Practice*”. Birmingham, UK, The School of Public Policy, The University of Birmingham
- Yusuf, A. O. (2022). *Digitalization of Tax Administration and Performance of Kwara State Internal Revenue Service* (Doctoral dissertation, Kwara State University (Nigeria)).
- Zayyad MA, Toycan M. (2018). Factors affecting sustainable adoption of e-health technology in developing countries: an exploratory survey of Nigerian hospitals from the perspective of healthcare professionals. *PeerJ – J Life Environ Sci*. doi:10.7717/peerj.4436
- Zucker, L.G. (1977), “The role of institutionalization in cultural persistence”, *American Sociological Review*, Vol. 42 No. 5, pp. 726-743.

APPENDICES

Appendix I: Letter of Introduction

Dear Sir/Madam,

I am a postgraduate student at Management University of Africa pursuing a Doctor of Philosophy in Management and Leadership. I am conducting research on “**Public finance management practices, governance framework, technological infrastructure and Own Source Revenue by county governments in Kenya**”.

In view of the above, I am requesting you to answer the questions, which are provided in the questionnaires attached here-with. I also request you to provide me with the necessary documentation and information regarding public management practices, county revenue policy, public participation and Own Source Revenue by county governments in Kenya. This will help me collect the necessary data which will help me to achieve the objectives of the study.

The information so collected through this questionnaire will be treated with utmost confidentiality and will be used exclusively for this research purpose only. Your response and cooperation in this matter will be highly appreciated. Thank you in advance.

Yours Faithfully,

Biwott Nicholas Kirwa

DML/19/00144/3/21

Appendix II: Research Questionnaire

Dear Respondent,

The following questionnaire is aimed at collecting data on the effect of public management practices, county revenue policy and public participation on Own Source Revenue by county governments in Kenya. You have been purposefully selected to participate by voluntarily providing the data towards this survey. Tick (✓) against the correct response using the scale provided for each question and comment where necessary. All your responses will be treated with the utmost confidentiality. Thank you for agreeing to take part in the research.

Section A: Demographic profile

1. Kindly indicate your gender.

Female ☐

Male ☐

2. Kindly indicate your age bracket in complete years.

18-30 years old ☐ 31-35 years old ☐

36-40 years old ☐ 41-55 years old ☐

56 years old & above ☐

3. Highest education level in education.

Post-secondary certificate ☐ Bachelor's Degree ☐

Master's Degree ☐ Doctorate or PhD ☐

4. Number of complete years worked in the County Government.

1- 5 years ☐ 6-10 years ☐ 10 years & above ☐

Section B: Public Finance management practices

Kindly evaluate the degree to which you agree with the following statements. *Note: 5=Strongly Agree 4=Agree 3=Not Sure 2=Disagree, 1=Strongly Disagree*

Note: (CIDP-County Integrated Development Plan; CFSP- County Fiscal strategy Paper; ADP-Annual Development Plan)

	Statements	1	2	3	4	5
	Planning and Budgeting Practices					
1.	The county government utilizes county Integrated Development Plan as its primary planning document.					

	Statements	1	2	3	4	5
2.	The process of preparing the planning documents (CIDP, ADP, CFSP, and Budget) is consultative					
3.	The county budget is linked to the ADP and CIDP					
4.	Departmental allocations are based on priorities in ADP and CIDP.					
5.	The county budget is implemented as approved by the Assembly					
6.	My department is allocated what is budgeted for.					
7.	There is timely disbursement of resources to my department					
8.	Financial planning can be used as a tool to prevent financial challenges					
9.	The county's plan includes an analysis of the financial environment, revenue and expenditure forecasts, debt position and affordability analysis, strategies for achieving and maintaining financial balance.					
10.	The financial plan(s) has/have monitoring mechanisms that indicates financial health.					
11.	The county government conducts monthly budget variance analysis					
	Internal Control Practices					
1.	I am aware of the existence of the Audit Committee					
2.	Activities are carried out as planned					
3.	I have confidence in the internal audit team					
4.	The internal accounting system is manual					
5.	There are incentives to report control deficiencies					
6.	There is separation of duties in the audit team (for bookkeeping, deposits, reporting and auditing)					
7	Access is controlled to different parts of an accounting					

	Statements	1	2	3	4	5
	system via passwords, lockouts and electronic access					
8.	There are robust access tracking mechanisms that serve to deter attempts at fraudulent access.					
9	Physical audits are frequently conducted on any physical asset tracked in the accounting system, such as inventory, materials and tools.					
10	The county has standardised documents used for financial transactions, such as invoices, internal materials requests, inventory receipts and travel expense reports, to maintain consistency in record keeping over time.					
11	Occasional accounting reconciliations is done					
12	There are specific managers/officers required to authorize certain types of transactions					
13	Audit personnel have high integrity ethical values.					
14	The governor has “hands-on” oversight involvement in the audit activities.					
15	Management personnel communicate internal controls through frequent contact with accounting personnel.					
	Public Finance Procurement Practices					
1	The county government conforms to the existing public procurement and asset disposal act and its regulations					
2	The county government utilizes the e-procurement module which is aimed at improving financial performance					
3	The county’s overall supply chain management system is effective in sourcing and payment of goods, works and services					
4	The county’s procurement process is time sensitive					
5	The county government procurement process is anchored on fairness to all bidders					

	Statements	1	2	3	4	5
6	There is separation of financial authority authority					
7	There is separation of duties between personnel who make contracts, those who receive the goods or services, and those who authorize payments.					
8	Requirements which are above a certain financial threshold are normally advertised in accordance with particular regulations on public procurement					
9	Competition is used to acquire goods and services.					
10	Purchasing is based on value for money.					
11	All procurement transactions are undertaken in an ethical and honest way					
12	Suppliers and customers are informed and protected.					
13	The price quoted and terms of payment are clearly negotiated to avoid non-delivery and partial-deliveries which lead to stock-outs					
14	We are required to prepare procurement plans in time for consolidation in line with annual budget estimates.					
	Revenue Mobilisation Practices					
1	There are efforts in the county to optimize own source revenues					
2	Our revenue collection is automated					
3	Revenue automation will increase performance					
4	The county revenue management system conforms with existing national and county policies					
5	Our Finance Act is fully implemented					
6	Raising of sufficient local revenues will empower the county					
7	The raising of local revenues has not increased service delivery demands from residents					
8	Our revenue administration is weak					

	Statements	1	2	3	4	5
9	We have sufficiently trained revenue staff					
10	We have not had any disciplinary problem with our staff on revenue leakage					
11	The county is legally and politically doing nothing to motivate the residents to fulfil their revenue obligation					
12	There are so many revenue leakages involving our revenue collectors					
13	The county has not developed new and sustainable strategies to improve revenue mobilization					

Section C: Governance Framework

Using a scale of 1 to 5 tick the appropriate answer for each of the questions. Kindly evaluate the degree to which you agree with the following statements.

Note: 5=Strongly Agree 4=Agree 3=Not Sure 2=Disagree, 1=Strongly Disagree

	Statements	1	2	3	4	5
1.	The laws governing public financial management in the County are anchored in the constitution					
2.	There is compliance to public financial management regulations in the County					
3.	There is implementation of Public Procurement and Asset Disposal Act 2015 in the County					
4.	There is public participation on budgeting process in the County					
5.	The constitutional laws governing public financial management affect the performance of County					
6.	The compliance to public financial management regulations affects the performance of County					
7.	Implementation of Public Procurement and Asset Disposal Act 2015 affects the performance of County					
8.	Public participation in the budgeting process in the County affects the performance					

9.	The legal framework reforms affect the performance of County					
10.	Budget legislation are well executed to avoid financial performance challenges					
11.	budget plans are well executed to avoid financial performance challenges					
12.	County Appropriation bills passed in a financial year determines county governments performance in that year					
13.	County assembly policies assists in monitoring budget spending					
14.	The county ensures adherence to the approved revenue policy					
15.	The county ensures strict penalties against fraud and corruption					
16.	The county adheres to timeliness in implementation of the revenue policy plans					
17.	There exists a code of ethics in the formulation of revenue policy					
18.	The revenue policy is consistent with National policies in respect of Tax, Trade and the Economy					
19.	The county government fully complies with provisions of all relevant financial laws that guides daily operations					
20.	The county government fully complies with provisions of all relevant financial regulations that guides daily operations					
21.	There is adoption of International Public Sector Accounting Standards (IPSAS) in financial accounting and reporting practices in the County					

Section D: Technology Infrastructure

Using a scale of 1 to 5 tick the appropriate answer for each of the questions. Kindly evaluate the degree to which you agree with the following statements.

Note: 5=Strongly Agree 4=Agree 3=Not Sure 2=Disagree, 1=Strongly Disagree

	Statements	1	2	3	4	5
	Integrated Financial Management Information System					
1.	There is adoption of IFMIS in County public financial management operations					

2.	The County trains its staff on IFMIS use					
3.	There is integration of IFMIS with other public financial management systems in the County operations					
4.	There is sufficient backup of IFMIS for security of data in the County					
5.	Adoption of IFMIS in County public financial management operations has affected the performance of the County					
6.	The training of county staff on IFMIS use in the County has affected the performance in the County					
7.	The performance of the County has been affected by the integration of IFMIS with other PFM systems in County operations					
8.	Community members are always notified of public participation forums					
9.	Sufficient backup of IFMIS affects the security of data in the County					
10.	The IFMIS reforms affect the performance of County					
	Mobile Payments System					
1	The utilization of mobile service has made it easier to collect revenue					
2	The mobile payment system is efficient and fast					
3	The County's mobile payment system is safe and secure for users					
4	The system is convenient for the users as well as the County Government					
5	The mobile payment system has improved Own Source Revenue collection.					
	Online Response Systems					
1	There is an active online customer care that is happy to help user					
2	Feedback on the service is worked upon so as to improve the quality of the service.					
3	Payment reminders are sent frequently in order to encourage compliance					

4	Online response systems have improved Own Source Revenue collection					
5	Users can be able to get help on the use of the system at any time					
	Integrated Tax Management Systems					
1	System comes up with tax fines and penalties automatically.					
2	The compliance record of all taxpayers are kept and updated regularly.					
3	The integrated tax management has helped to expand the County's tax base through registration of new taxpayers					
4	Integrated Tax management systems has improved compliance levels					
5	More people are aware that public knowledge on tax has improved as a result of the integrated tax management systems					

Section E: Own Source Revenue

Using a scale of 1 to 5 tick the appropriate answer for each of the questions. Kindly evaluate the degree to which you agree with the following statements.

Note: 5=Strongly Agree 4=Agree 3=Not Sure 2=Disagree, 1=Strongly Disagree

	Statements	1	2	3	4	5
	Quantity and Growth					
1.	The county government has regularly been attaining the annual local revenue targets for the past four years.					
2.	The County Government has improved the amount of revenue collected					
3.	The own-revenues sources of county government is cost effective and adequately covered by a legal framework					
4.	The cost of collecting Revenue has been reduced significantly					
	Efficiency and Effectiveness					
5.	The county government has sufficient staff to administer and collect own revenue sources					
6.	The number of cases of fraud in revenue collection have been minimized following automation					

7.	The county government has a debt collection unit that follow taxpayers who have defaulted or delayed in paying tax/fees.					
8.	Automation of revenue collection operations has increased collections and reduced leakages.					
9.	The County Government keeps better records on Revenue Collected and Expenditure					
	Composition and Diversification					
10.	The Process of Revenue Collection is Easy and convenient for Residents of the County and other taxpayers					
11.	The county has improved access to quality, affordable water and sewerage services for all citizens					
12.	The county has efficient infrastructure that ensures effective and efficient transport					
13.	The county provides affordable and accessible healthcare services					
	Performance and Sustainability					
14.	The county has improve access to education through bursaries and other support programmes at prep primary and vocational levels					
15.	The County revenue collection level has increased since devolution					
16.	The County experiences minimal cases of tax evasion thus optimum revenue collection					
17.	The County is financially and economically sustainable based on its annual revenue generated					
18.	The County revolving fund is sufficient to run its operations sustainably					
19.	The County has excelled to minimize its debt gap and recovery of tax arrears					

THANK YOU

Appendix III: Factor Loadings

Public Finance Management Practices	Factor Loading
The county government utilizes county Integrated Development Plan as its primary planning document.	0.777
The process of preparing the planning documents (CIDP, ADP, CFSP, and Budget) is consultative	0.768
The county budget is linked to the ADP and CIDP	0.7
Departmental allocations are based on priorities in ADP and CIDP.	0.791
The county budget is implemented as approved by the Assembly	0.703
My department is allocated what is budgeted for.	0.781
There is timely disbursement of resources to my department	0.787
Financial planning can be used as a tool to prevent financial challenges	0.707
The county's plan includes an analysis of the financial environment, revenue and expenditure forecasts, debt position and affordability analysis, strategies for achieving and maintaining financial balance.	0.718
The financial plan(s) has/have monitoring mechanisms that indicates financial health.	0.772
The county government conducts monthly budget variance analysis	0.737
I am aware of the existence of the Audit Committee	0.759
Activities are carried out as planned	0.704
I have confidence in the internal audit team	0.77
There is separation of duties in the audit team (for bookkeeping, deposits, reporting and auditing)	0.767
Access is controlled to different parts of an accounting system via passwords, lockouts and electronic access	0.706
There are robust access tracking mechanisms that serve to deter attempts at fraudulent access.	0.707
Physical audits are frequently conducted on any physical asset tracked in the accounting system, such as inventory, materials and tools.	0.736

The county has standardised documents used for financial transactions, such as invoices, internal materials requests, inventory receipts and travel expense reports, to maintain consistency in record keeping over time.	0.765
Occasional accounting reconciliations is done	0.782
There are specific managers/officers required to authorize certain types of transactions	0.729
Audit personnel have high integrity ethical values.	0.848
Management personnel communicate internal controls through frequent contact with accounting personnel.	0.775
The county government conforms to the existing public procurement and asset disposal act and its regulations	0.798
The county government utilizes the e-procurement module which is aimed at improving financial performance	0.751
The county's overall supply chain management system is effective in sourcing and payment of goods, works and services	0.747
The county's procurement process is time sensitive	0.736
The county government procurement process is anchored on fairness to all bidders	0.771
There is separation of financial authority authority	0.779
There is separation of duties between personnel who make contracts, those who receive the goods or services, and those who authorize payments.	0.756
Requirements which are above a certain financial threshold are normally advertised in accordance with particular regulations on public procurement	0.777
Competition is used to acquire goods and services.	0.743
Purchasing is based on value for money.	0.765
All procurement transactions are undertaken in an ethical and honest way	0.762
Suppliers and customers are informed and protected.	0.764

The price quoted and terms of payment are clearly negotiated to avoid non-delivery and partial-deliveries which lead to stock-outs	0.792
We are required to prepare procurement plans in time for consolidation in line with annual budget estimates.	0.709
There are efforts in the county to optimize own source revenues	0.717
Our revenue collection is automated	0.776
Revenue automation will increase performance	0.751
The county revenue management system conforms with existing national and county policies	0.754
Our Finance Act is fully implemented	0.749
Technology Infrastructure	Factor Loading
There is adoption of IFMIS in County public financial management operations	0.743
The County trains its staff on IFMIS use	0.724
There is integration of IFMIS with other public financial management systems in the County operations	0.854
There is sufficient backup of IFMIS for security of data in the County	0.708
Community members are always notified of public participation forums	0.752
The utilization of mobile service has made it easier to collect revenue	0.703
The mobile payment system is efficient and fast	0.702
The County's mobile payment system is safe and secure for users	0.753
The system is convenient for the users as well as the County Government	0.757
The mobile payment system has improved Own Source Revenue collection.	0.747
There is an active online customer care that is happy to help user	0.796
Feedback on the service is worked upon so as to improve the quality of the service.	0.752
Payment reminders are sent frequently in order to encourage compliance	0.798
Online response systems have improved Own Source Revenue collection	0.733
Users can be able to get help on the use of the system at any time	0.749

System comes up with tax fines and penalties automatically.	0.812
The compliance record of all taxpayers are kept and updated regularly.	0.769
The integrated tax management has helped to expand the County's tax base through registration of new taxpayers	0.805
Integrated Tax management systems has improved compliance levels	0.779
More people are aware that public knowledge on tax has improved as a result of the integrated tax management systems	0.791
Governance Framework	Factor Loading
The laws governing public financial management in the County are anchored in the constitution	.791
There is compliance to public financial management regulations in the County	.802
There is implementation of Public Procurement and Asset Disposal Act 2015 in the County	.779
There is public participation on budgeting process in the County	.754
Budget legislation are well executed to avoid financial performance challenges	.825
Budget plans are well executed to avoid financial performance challenges	.845
County Appropriation bills passed in a financial year determines county governments performance in that year	.787
County assembly policies assists in monitoring budget spending	.811
The county ensures adherence to the approved revenue policy	.861
The county ensures strict penalties against fraud and corruption	.855
The county adheres to timeliness in implementation of the revenue policy plans	.876
There exists a code of ethics in the formulation of revenue policy	.807
The revenue policy is consistent with National policies in respect of Tax, Trade and the Economy	.781
The county government fully complies with provisions of all relevant financial laws that guides daily operations	.856

The county government fully complies with provisions of all relevant financial regulations that guides daily operations	.839
There is adoption of International Public Sector Accounting Standards (IPSAS) in financial accounting and reporting practices in the County	.795
Own Source Revenue	Factor Loading
The county government has regularly been attaining the annual local revenue targets for the past four years.	.716
The own-revenues sources of county government is cost effective and adequately covered by a legal framework	.742
The cost of collecting Revenue has been reduced significantly	.788
The county government has sufficient staff to administer and collect own revenue sources	.750
The number of cases of fraud in revenue collection have been minimized following automation	.748
The county government has a debt collection unit that follow taxpayers who have defaulted or delayed in paying tax/fees.	.738
Automation of revenue collection operations has increased collections and reduced leakages	.764
The County Government keeps better records on Revenue Collected and Expenditure	.748
The Process of Revenue Collection is Easy and convenient for Residents of the County and other taxpayers	.745
The county has improved access to quality, affordable water and sewerage services for all citizens	.744
The county has efficient infrastructure that ensures effective and efficient transport	.785
The county provides affordable and accessible healthcare services	.802
The county has improve access to education through bursaries and other support programmes at prep primary and vocational levels	.810
The County revenue collection level has increased since devolution	.795

The County experiences minimal cases of tax evasion thus optimum revenue collection	.748
The County is financially and economically sustainable based on its annual revenue generated	.707
The County revolving fund is sufficient to run its operations sustainably	.713
The County has excelled to minimize its debt gap and recovery of tax arrears	.724
Extraction Method: Principal Axis Factoring.	
a. 1 factors extracted. 4 iterations required.	

Appendix IV: Moderated-Mediation Analysis

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.3 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 8
Y : OSR_2
X : PFMP2
M : GF_2
W : TIMIS_2

Sample
Size: 251

OUTCOME VARIABLE:
GF_2

Model Summary

R	R-sq	MSE	F	df1	df2	p
.8347	.6968	.0907	189.1855	3.0000	247.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.5259	.0199	227.6151	.0000	4.4867	4.5650
PFMP2	.7086	.0551	12.8707	.0000	.6002	.8170
TIMIS_2	.2074	.0591	3.5097	.0005	.0910	.3238
Int_1	-.0890	.0360	-2.4716	.0141	-.1599	-.0181

Product terms key:

Int_1 : PFMP2 x TIMIS_2

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0075	6.1087	1.0000	247.0000	.0141

Focal predict: PFMP2 (X)
Mod var: TIMIS_2 (W)

Conditional effects of the focal predictor at values of the moderator(s):

TIMIS_2	Effect	se	t	p	LLCI	ULCI
-.4933	.7525	.0556	13.5305	.0000	.6430	.8620

.0000	.7086	.0551	12.8707	.0000	.6002	.8170
.4329	.6701	.0591	11.3319	.0000	.5536	.7865

Data for visualizing the conditional effect of the focal predictor:
 Paste text below into a SPSS syntax window and execute to produce plot.

```
DATA LIST FREE/
  PFMP2  TIMIS_2  GF_2  .
BEGIN DATA.
  -.4802  -.4933  4.0622
  .0000  -.4933  4.4236
  .4802  -.4933  4.7850
  -.4802  .0000  4.1856
  .0000  .0000  4.5259
  .4802  .0000  4.8662
  -.4802  .4329  4.2939
  .0000  .4329  4.6157
  .4802  .4329  4.9374
END DATA.
GRAPH/SCATTERPLOT=
  PFMP2  WITH  GF_2  BY  TIMIS_2 .
```

OUTCOME VARIABLE:
 OSR_2

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.6134	.3763	.2007	37.1062	4.0000	246.0000	.0000

Model						
	coeff	se	t	p	LLCI	ULCI
constant	4.3956	.4295	10.2351	.0000	3.5497	5.2415
PFMP2	.4676	.1059	4.4167	.0000	.2591	.6761
GF_2	-.0217	.0947	-.2296	.8186	-.2082	.1647
TIMIS_2	.4508	.0901	5.0046	.0000	.2734	.6282
Int_1	.1633	.0542	3.0114	.0029	.0565	.2701

Product terms key:
 Int_1 : PFMP2 x TIMIS_2

Test(s) of highest order unconditional interaction(s):					
	R2-chng	F	df1	df2	p
X*W	.0230	9.0688	1.0000	246.0000	.0029

Focal predict: PFMP2 (X)
 Mod var: TIMIS_2 (W)

Conditional effects of the focal predictor at values of the moderator(s):

TIMIS_2	Effect	se	t	p	LLCI	ULCI
-.4933	.3870	.1092	3.5449	.0005	.1720	.6021
.0000	.4676	.1059	4.4167	.0000	.2591	.6761
.4329	.5383	.1085	4.9632	.0000	.3247	.7519

Data for visualizing the conditional effect of the focal predictor:
 Paste text below into a SPSS syntax window and execute to produce plot.

```
DATA LIST FREE/
  PFMP2  TIMIS_2  OSR_2  .
BEGIN DATA.
  -.4802  -.4933  3.8893
  .0000  -.4933  4.0752
  .4802  -.4933  4.2611
  -.4802  .0000  4.0730
  .0000  .0000  4.2976
  .4802  .0000  4.5221
  -.4802  .4329  4.2342
  .0000  .4329  4.4927
  .4802  .4329  4.7512
END DATA.
GRAPH/SCATTERPLOT=
  PFMP2  WITH  OSR_2  BY  TIMIS_2  .
```

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Conditional direct effect(s) of X on Y:

TIMIS_2	Effect	se	t	p	LLCI	ULCI
-.4933	.3870	.1092	3.5449	.0005	.1720	.6021
.0000	.4676	.1059	4.4167	.0000	.2591	.6761
.4329	.5383	.1085	4.9632	.0000	.3247	.7519

Conditional indirect effects of X on Y:

INDIRECT EFFECT:
 PFMP2 -> GF_2 -> OSR_2

TIMIS_2	Effect	BootSE	BootLLCI	BootULCI
-.4933	-.0164	.0907	-.2073	.1471
.0000	-.0154	.0845	-.1927	.1386
.4329	-.0146	.0792	-.1784	.1317

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
TIMIS	2	.0019	.0150	-.0218 .0368

Pairwise contrasts between conditional indirect effects (Effect1 minus Effect2)

Effect1	Effect2	Contrast	BootSE	BootLLCI	BootULCI
-.0154	-.0164	.0010	.0074	-.0108	.0182
-.0146	-.0164	.0018	.0139	-.0202	.0341
-.0146	-.0154	.0008	.0065	-.0095	.0159

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

W values in conditional tables are 1 SD below the mean, the mean, and the maximum.

NOTE: One SD above the mean is above the maximum observed in the data for W,
so the maximum measurement for W is used for conditioning instead.

NOTE: The following variables were mean centered prior to analysis:
TIMIS_2 PFMP2

----- END MATRIX -----

Appendix V: NACOSTI LICENSE

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 535419	Date of Issue: 12/August/2024
RESEARCH LICENSE	
	
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