

**DIGITAL CAPABILITIES AND OPERATIONAL PERFORMANCE OF GENERAL
INSURANCE COMPANIES IN KENYA: THE MODERATING ROLE OF
GOVERNANCE OVERSIGHT**

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DECLARATION

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

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DEDICATION

I dedicate this dissertation to my family, whose unwavering support, encouragement, and prayers gave me the strength and motivation to complete this academic journey. I also dedicate this work to all professionals and scholars committed to advancing innovation and excellence within the insurance industry and the broader business environment.

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ABSTRACT

The rapid advancement of digital technologies has reshaped the operational landscape of general insurance companies worldwide. However, the extent to which these digital capabilities influence performance outcomes remains underexplored, particularly within the local insurance sector. This study examined the influence of digital capabilities on the operational performance of general insurance companies in Kenya, with a focus on the moderating role of governance. Specifically, the study assessed how transaction security, digitally-enabled claims processing, and emerging technologies relate to operational performance, and how these relationships are moderated by governance. The study was grounded in the Dynamic Capabilities Theory and the Resource-Based View Theory. The research adopted a descriptive cross-sectional design and employed a census approach targeting all 36 licensed general insurance companies in Kenya. The final sample consisted of 63 respondents drawn from 34 insurance companies, with each participating company providing between one and three senior managers from operations, information technology, finance, underwriting, and strategy functions. The study was conducted between March and April 2026. Quantitative data analyses were conducted using descriptive statistics, correlation analysis, hierarchical multiple regression, and moderated regression analysis. The findings revealed that emerging technologies had a positive and statistically significant relationship with operational performance, indicating that firms with higher adoption of advanced digital technologies tended to report stronger operational outcomes. Transaction security and digitally-enabled claims processing exhibited positive but statistically non-significant relationships with operational performance. The findings further revealed that governance did not significantly moderate the relationship between digital capabilities and operational performance. The study concludes that emerging technologies represent a strategically important digital capability within the Kenyan insurance sector. The findings imply that insurance firms should prioritize advanced digital transformation initiatives and strengthen the integration of emerging technologies within core operational processes. The study contributes to theory by providing empirical evidence that suggests a distinction between foundational and transformative digital capabilities in explaining operational performance. The originality of the study lies in integrating governance into the relationship between digital capabilities and operational performance within Kenya's general insurance industry, an area that has received limited empirical attention.

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ABBREVIATIONS AND ACRONYMS

2SLS	two-stage least squares
4IR	Fourth Industrial Revolution
AI	Artificial Intelligence
AKI	Association of Kenya Insurers
AWS	Amazon Web Services
DCT	Dynamic Capabilities Theory
ERP	Enterprise Resource Planning
FGLS	Feasible Generalized Least Squares
GDP	Gross Domestic Product
IBM	International Business Machine
IT	Information Technology
IoT	Internet of Things
ISMS	Information Security Management System
ISO	International Standards Organizations
IRA	Insurance Regulatory Authority
MSMEs	Micro, Small, and Medium Enterprises
NACOSTI	National Commission for Science, Technology and Innovation
OLS	Ordinary Least Squares (OLS)
P&C	Property and Casualty
PLS-SEM	Partial Least Squares Structural Equation Modeling
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investment
RBV	Resource-Based View
RPA	Robotic Process Automation
SEM	Structural Equation Modelling
SU-ISERC	Strathmore University Institutional Scientific Ethics Review Committee
SME	Small and Medium-sized Enterprises
SPSS	Statistical Package for the Social Sciences

VIF	Variance Inflation Factor
VRIN	Valuable, Rare, Inimitable, and Non-substitutable

DEFINITION OF KEY TERMS

Digital capabilities: Digital capabilities refer to a firm's capacity to mobilize and leverage digital technologies to improve business processes, enhance customer experiences, and support strategic innovation (Atobishi et al., 2024).

Digitally-enabled claims processing: Digitally-enabled claims processing refers to the use of advanced technologies like automation to streamline the traditional, often paper-based, process of receiving, assessing, and settling claims (Skaf et al., 2024).

Emerging technologies: Emerging technologies refer to novel or rapidly evolving digital tools that hold significant transformative potential for business operations and service delivery. In the insurance sector, these include artificial intelligence (AI), blockchain, Internet of Things (IoT), and big data analytics (Wamba-Taguimdje et al., 2020; Sun & Jiao, 2023).

Firm age: Firm age refers to the duration a company has operated continuously and is often used as a proxy for institutional experience and stability (Mabenge et al., 2022).

Firm performance: Siepel and Dejardin (2020) define performance as the alignment of organizational outputs with the goals set by internal and external stakeholders. In other words, performance reflects the effectiveness and efficiency with which a firm utilizes its resources to generate value.

Firm size: Firm size denotes the resource capacity, market reach, operational scale, infrastructure, and workforce strength of an organization (Farooq et al., 2021; Mabenge et al., 2022). Larger firms often possess greater financial and technical resources to support the adoption and integration of digital technologies, potentially leading to improved performance outcomes (Kijkasiwat & Phuensane, 2020).

Governance Oversight: Governance encompasses the systems, structures, and practices that guide decision-making, strategic oversight, accountability, and compliance within a firm (Atobishi et al., 2024).

Transaction security: Transaction security refers to the protection of customer data and financial transactions from breaches, fraud, and unauthorized access (Alharb & Gregg, 2022).

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Operational performance is a critical indicator of organizational effectiveness and competitiveness because it reflects the extent to which firms efficiently utilize their resources to achieve strategic and operational objectives (Siepel & Dejardin, 2020). It encompasses dimensions such as service quality, process efficiency, responsiveness, cost management, and customer satisfaction, all of which are essential for sustaining long-term organizational success (Holbeche, 2023). In increasingly competitive and dynamic business environments, firms are expected not only to achieve financial objectives but also to continuously improve operational processes in order to meet evolving stakeholder expectations and maintain market relevance (Latifi et al., 2021).

Within the insurance industry, operational performance is particularly important because insurers depend on efficient processes to manage underwriting activities, claims settlement, customer service, and risk management functions (Ribanović, 2025). Globally, insurance companies continue to face significant operational challenges arising from increasing claims complexity, heightened customer expectations, regulatory pressures, and technological disruption (Gupta et al., 2024). In developed markets such as the United States and Europe, insurers have experienced shrinking profit margins, rising claims volatility, and growing pressure to modernize legacy systems in order to improve operational efficiency and service delivery (McKinsey, 2024). Furthermore, traditional insurers increasingly face competition from technology-driven insurtech firms that offer faster, more personalized, and cost-effective services, placing additional pressure on operational performance (McKinsey, 2024).

At the regional level, insurance companies across Sub-Saharan Africa continue to experience operational inefficiencies that limit their ability to achieve sustainable growth and profitability. Many insurers operate in environments characterized by low insurance penetration, underdeveloped technological infrastructure, and limited access to innovative insurance solutions (FSD Africa, 2023). According to Bah and Abila (2024), general insurance companies across Africa frequently struggle with inefficient claims management systems, weak fraud detection mechanisms, and outdated operational processes, all of which negatively affect customer

satisfaction, operational efficiency, and profitability. These challenges have constrained the ability of many insurers in the region to achieve optimal operational performance despite increasing demand for insurance services.

In Kenya, operational performance remains a major concern within the general insurance sector despite the country's relatively advanced insurance market compared to many other African economies. KPMG (2021) reported persistent challenges relating to declining underwriting margins, fluctuating profitability, and increasing customer complaints regarding claims settlement and service delivery. Similarly, the Association of Kenya Insurers (AKI, 2024) reported that insurance penetration remains at approximately 2.8% of GDP, below the African average of 3.4%, reflecting persistent sectoral challenges. Furthermore, the Insurance Regulatory Authority (IRA, 2023) revealed that more than 60% of general insurers reported underwriting losses, with a sector-wide combined ratio of 108%, indicating that insurers paid out Ksh 108 in claims and expenses for every Ksh 100 earned in premiums.

Further evidence from AKI (2024) and IRA (2025) indicates that operational inefficiencies continue to undermine the performance of general insurance companies in Kenya. Despite growth in gross written premiums, the sector recorded underwriting losses amounting to KES 4.96 billion in the fourth quarter of 2023 compared to KES 3.72 billion during the corresponding period in the previous year (AKI, 2024). Loss ratios remained high at 67.9%, while management expenses accounted for 28.7% of premiums, significantly eroding underwriting profitability (IRA, 2025). In addition, increasing cases of insurance fraud, delays in claims settlement, customer complaints, and rising operational costs continue to affect service quality and overall operational efficiency. These persistent operational challenges highlight the need for insurers to identify strategic mechanisms capable of improving efficiency, enhancing service delivery, and strengthening organizational performance.

One strategic response that has gained increasing attention is the development of digital capabilities. As organizations seek solutions to operational inefficiencies and changing market demands, digital technologies have emerged as important enablers of process optimization, innovation, and service improvement (Farida & Setiawan, 2022; Latifi et al., 2021). Digital capabilities refer to a firm's ability to deploy and leverage digital technologies, resources, and competencies to improve business processes, customer experiences, and organizational outcomes

(Heredia et al., 2022). Unlike traditional technological investments, digital capabilities enable firms to continuously adapt their operations, improve decision-making, and respond more effectively to changing environmental conditions (Nambisan et al., 2020).

Scholars have increasingly recognized digital capabilities as strategic assets that contribute to improved operational performance. According to Rikap and Lundvall (2021), firms that successfully develop digital capabilities often experience improvements in operational efficiency, customer satisfaction, innovation, and organizational agility. These capabilities may include cybersecurity infrastructure, process automation systems, data analytics, artificial intelligence applications, and other emerging digital technologies that support operational excellence (Guo & Xu, 2021; Sousa-Zomer et al., 2020). Empirical evidence suggests that organizations possessing strong digital capabilities tend to outperform competitors in terms of productivity, responsiveness, and service quality (Heredia et al., 2022).

Within the insurance industry, digital capabilities have become increasingly important because of the industry's dependence on information processing, customer interactions, claims management, and risk assessment activities (Bah & Abila, 2024; Ribanović, 2025). In particular, capabilities related to transaction security, digitally-enabled claims processing, and emerging technologies have received considerable attention due to their potential to improve operational efficiency and service delivery. Secure transaction systems help protect customer information and build trust, digitally-enabled claims processing reduces settlement delays and administrative inefficiencies, while emerging technologies such as artificial intelligence, blockchain, and the Internet of Things support more accurate risk assessment and operational automation (Alharb & Gregg, 2022; Ribanović, 2025).

Evidence suggests that the adoption of advanced digital capabilities within the insurance industry remains uneven despite increasing investments in digital transformation initiatives. According to a Deloitte (2025) global insurance survey, while more than 80% of insurers have initiated digital transformation programs, fewer than 40% have successfully integrated advanced technologies such as artificial intelligence, predictive analytics, and automated claims management into core business processes. Similarly, McKinsey (2024) reported that insurers with advanced digital capabilities achieve claims processing costs that are 30–50% lower and customer satisfaction levels that are significantly higher than those of less digitally mature insurers. However, many

insurers continue to rely on fragmented legacy systems, manual claims processes, and limited data analytics capabilities, which constrain operational efficiency and service delivery. These findings suggest that digital capability gaps remain a major challenge within the insurance industry and may contribute to variations in operational performance across firms.

Despite the recognized benefits of digital transformation, the adoption and effective utilization of digital capabilities among general insurance companies in Kenya remains uneven (Ndei & Ngugi, 2022). Studies have shown that many insurers continue to face financial, technological, organizational, and strategic constraints that limit investments in advanced cybersecurity systems, claims automation technologies, and emerging digital solutions (Moturi et al., 2022). Consequently, the sector continues to experience challenges such as fraud, delays in claims settlement, customer complaints, and operational inefficiencies, raising concerns about whether existing digital capabilities are sufficiently developed to support improved operational performance. Consequently, while digital capabilities have been identified as potential drivers of operational performance, there remains limited understanding regarding how specific digital capabilities influence the operational performance of general insurance companies within the Kenyan context. Furthermore, the extent to which governance oversight influences the effectiveness of these digital capabilities remains insufficiently understood.

1.1.1 Conceptualization of Operational Performance

Firm performance is a multidimensional construct that broadly refers to how well an organization achieves its objectives, whether strategic, operational, or financial. Siepel and Dejardin (2020) define performance as the alignment of organizational outputs with the goals set by internal and external stakeholders. In other words, performance reflects the effectiveness and efficiency with which a firm utilizes its resources to generate value. Performance measurement often includes financial outcomes, customer satisfaction, internal business processes, and innovation capacity, reflecting both tangible and intangible dimensions of organizational success (Ndei & Ngugi, 2022).

The concept of performance is commonly dissected into several key components, including financial performance, operational performance, and organizational effectiveness. Financial performance typically includes metrics such as profitability, return on investment, and revenue growth while operational performance encompasses the internal efficiency of processes, quality

control, speed of service delivery, and responsiveness to market demands (Holbeche, 2023). Other scholars have also emphasized non-financial indicators such as employee engagement, customer satisfaction, and innovation as critical aspects of overall performance (Alemayehu et al., 2021).

In this study, firm performance was examined through the lens of operational performance because of its direct relevance to the strategic objectives of general insurance companies. Operational performance reflects the internal efficiency and effectiveness of a firm's processes, which is particularly important in the insurance industry, where the quality and speed of services such as claims processing significantly affect customer satisfaction, customer retention, and overall organizational effectiveness (Kitenga et al., 2020; Ribanović, 2025). Efficient operations also reduce transaction costs, improve service responsiveness, and minimize administrative delays, thereby strengthening competitiveness and long-term sustainability (Siepel & Dejardin, 2020; Holbeche, 2023). Consistent with prior studies on operational performance in service and insurance organizations, this study measured operational performance using claims turnaround time, transaction processing efficiency, customer satisfaction, and internal process efficiency (Ndei & Ngugi, 2022; Kitenga et al., 2020; Alemayehu et al., 2021). These indicators were selected because they capture key operational outcomes that are directly influenced by organizational processes and digital capabilities and are widely used as proxies for operational performance in organizational and insurance-sector research.

Although objective indicators such as actual claims settlement days, claims ratios, expense ratios, and customer complaint statistics provide important measures of operational performance, access to standardized firm-level operational data across all general insurance companies was limited. Consequently, this study relied on managerial assessments of operational performance dimensions that are directly observable within organizational processes. This approach is consistent with prior studies that have assessed operational performance using managerial evaluations of claims processing efficiency, customer satisfaction, service delivery, and internal process effectiveness (Ndei & Ngugi, 2022; Kitenga et al., 2020; Alemayehu et al., 2021). The selected indicators therefore provide a practical and theoretically grounded approach for assessing operational performance within the context of Kenya's general insurance sector.

1.1.2 Conceptualization of Digital Capabilities

Digital capabilities refer to a firm's capacity to mobilize and leverage digital technologies to improve business processes, enhance customer experiences, and support strategic innovation (Atobishi et al., 2024). These capabilities extend beyond the adoption of digital tools and encompass the integration of digital resources, skilled personnel, adaptive business models, and supportive organizational structures that enable firms to respond effectively to changing market conditions (Guo & Xu, 2021). According to Heredia et al. (2022), digital capabilities represent a subset of dynamic capabilities that enable organizations to sense, seize, and transform opportunities arising from digital technologies. Consequently, digital capabilities have become increasingly important in enhancing operational efficiency, innovation, competitiveness, and organizational performance in the digital economy (Rikap & Lundvall, 2021).

The literature identifies digital capabilities as a multidimensional construct comprising several technological and organizational competencies, including cybersecurity, process automation, digital infrastructure, data analytics, customer interface technologies, and emerging technologies such as artificial intelligence and blockchain (Kotter et al., 2025; Nambisan et al., 2020; Rikap & Lundvall, 2021). These capabilities enable organizations to optimize internal processes, improve customer experiences, and support strategic decision-making (Sousa-Zomer et al., 2020). However, the specific dimensions of digital capabilities that are most relevant vary across industries depending on operational requirements and performance challenges.

Within the general insurance sector, digital capabilities are particularly important because insurers rely heavily on information processing, customer interactions, claims management, and risk assessment activities (Bah & Abila, 2024; Ribanović, 2025). Drawing from the literature and the operational realities of insurance companies, this study conceptualizes digital capabilities through three key dimensions that directly influence operational performance. These dimensions are transaction security, digitally-enabled claims processing, and emerging technologies. The dimensions were selected because they represent critical digital competencies that support secure customer transactions, efficient claims management, improved risk assessment, and enhanced service delivery within insurance operations (Alharb & Gregg, 2022; Wiktorsson, 2024).

Transaction security focuses on the capability of insurance firms to protect customer information, financial transactions, and digital systems from unauthorized access, fraud, and cyber threats (Alharb & Gregg, 2022). Digitally-enabled claims processing reflects the firm's ability to utilize digital technologies to automate, streamline, and improve the efficiency of claims management processes, thereby reducing delays and enhancing customer satisfaction (Skaf et al., 2024). Emerging technologies encompass the adoption and integration of advanced innovations such as artificial intelligence, blockchain, machine learning, Internet of Things (IoT), and big data analytics to improve underwriting, risk assessment, customer engagement, and operational efficiency (Paramesha et al., 2024). Collectively, these three dimensions constitute the digital capabilities examined in this study and form the basis of the study's specific objectives.

Transaction security relates to the protection of customer data and financial transactions from breaches, fraud, and unauthorized access (Alharb & Gregg, 2022). In the insurance industry where clients share sensitive personal and financial information, robust digital security systems are not only a regulatory requirement but also a trust-building mechanism (Wiktorsson, 2024). Grounded in the Resource-Based View (RBV) theory, robust security infrastructure is a valuable and rare resource that builds customer trust, which is a critical asset in insurance (Alharb & Gregg, 2022). From a DCT perspective, continuously adapting to cyber threats is a key dynamic capability. Empirical studies, such as Bokhari & Manzoor (2022), show a direct link between security investments and firm performance, making it a critical variable in the digital age. As Gupta et al. (2024) reported, poor transaction security undermines customer confidence and exposes firms to reputational and financial risks. In the current study, the indicators for Transaction Security were use of data encryption technologies, the existence of cybersecurity protocols (such as firewalls, anti-malware), reported incidents of fraud or data breaches within the past 12 months, implementation of secure customer authentication mechanisms (such as two-factor authentication, one-time passwords), and compliance with regulatory cybersecurity standards like ISO 27001 (Moturi et al., 2022).

Digitally-enabled claims processing refers to the use of advanced technologies like automation to streamline the traditional, often paper-based, process of receiving, assessing, and settling claims (Skaf et al., 2024). This transformation significantly enhances efficiency, accuracy, and customer experience, primarily within the insurance, healthcare, and finance industries (Ntwali et al., 2020).

Although some indicators such as claims turnaround time and customer satisfaction may conceptually relate to operational performance, within this study they were specifically used to capture the efficiency of technology-enabled claims management processes. Operational performance, by contrast, reflects broader firm-level operational outcomes beyond claims administration alone. Enhancing claims efficiency through digital systems, such as automated workflows, digital submission portals, and AI-powered fraud detection, can significantly improve turnaround times and reduce administrative burdens (Vemulapalli, 2024). Prior research consistently identifies claims handling as the primary point of customer interaction and dissatisfaction (Ntwali et al., 2020; Skaf et al., 2024). Digitizing this process is a direct application of dynamic capabilities (reconfiguring processes) and is empirically established as a key performance driver. Digitally-enabled claims processing was measured by the average time taken to process claims (in days), the percentage of claims processed digitally or automatically, the claim approval rate on first submission, customer satisfaction with claims handling, and the rate of claims complaint resolution (Skaf et al., 2024; Vemulapalli, 2024).

Emerging technologies include the application of novel digital innovations such as artificial intelligence, machine learning, Internet of Things (IoT), and blockchain in insurance operations (Paramesha et al., 2024). These technologies have the potential to revolutionize risk assessment, underwriting, customer engagement, and back-office functions. For example, AI can be used to predict risk patterns while blockchain can enhance transparency in policy management and claims verification (Sood et al., 2024). Studies by Wamba-Taguimdje et al. (2020) on AI and Paramesha et al. (2024) on blockchain and IoT in insurance demonstrate their growing impact on risk assessment (e.g., telematics), operational automation (e.g., roboadvisors), and fraud detection. Emerging Technologies were measured using adoption of artificial intelligence (such as chatbots, automated underwriting), use of blockchain for claims verification or data sharing, implementation of IoT tools such as telematics for motor insurance, level of investment in digital infrastructure, and the integration of big data analytics into decision-making processes (Paramesha et al., 2024).

Firm size, age, and governance are widely recognized as influential factors in determining organizational performance; however, their effects are often complex and context-dependent (Pu & Liu, 2023). Larger firms may benefit from economies of scale, better access to capital, and broader market reach, which can enhance performance; however, they may also face challenges

related to bureaucracy, slower decision-making, and resistance to change (Brewis et al., 2023). Similarly, older firms are presumed to possess accumulated experience, institutional knowledge, and established customer bases, but they may also suffer from organizational inertia and outdated systems (Asimakopoulos et al., 2023). In this study, Firm size was measured using total estimated assets (Sousa-Zomer et al., 2020). Firm Age was measured in terms of the years the company has been in operation.

1.1.3 Governance Oversight as a Moderating Variable

Governance oversight, defined by structures, practices, and leadership that guide corporate conduct, is critical in shaping strategic direction, risk management, and resource allocation (Kavadis & Thomsen, 2023). Weak governance oversight can lead to inefficiencies, poor accountability, and misalignment with performance objectives (Kavadis & Thomsen, 2023). These moderating variables may either strengthen or weaken the impact of digital capabilities on operational performance, thus warranting closer investigation. the mere possession of digital capabilities does not automatically guarantee improved performance. The realization of their value is heavily influenced by the firm's internal structures and oversight mechanisms, particularly its governance.

Effective governance oversight, characterized by strategic oversight, accountability, and transparent decision-making, is posited to play a critical moderating role in this relationship. Strong governance ensures that digital investments are aligned with strategic objectives, that risks (such as those associated with cybersecurity and new technology adoption) are properly managed, and that resources are allocated efficiently (Guo & Xu, 2021). Conversely, weak governance oversight can lead to misaligned digital strategies, poor implementation of new technologies like AI and blockchain, and inadequate oversight of transaction security, thereby weakening the positive impact of digital capabilities on performance (Ntwali et al., 2020). Therefore, this study introduced governance as a key moderating variable to understand the conditions under which digital capabilities most effectively enhance operational performance. Governance was measured using oversight, strategic guidance, transparency, and compliance (Kavadis & Thomsen, 2023).

1.1.4 Relationship between Digital Capabilities and Operational Performance

The relationship between digital capabilities and operational performance has largely been explained through the Resource-Based View (RBV) Theory and the Dynamic Capabilities Theory (DCT). RBV posits that valuable, rare, inimitable, and non-substitutable resources such as digital capabilities can create competitive advantage and enhance organizational performance (Barney et al., 2021). Conversely, DCT emphasizes a firm's ability to integrate, build, and reconfigure resources in response to changing environmental conditions, thereby enabling sustained performance improvements (Cristofaro & Lovallo, 2022). While both theories have been applied independently in studies examining digital transformation and firm performance, limited research has integrated the two perspectives to explain how digital capabilities influence operational performance within the insurance sector.

Despite the growing recognition of digital capabilities as drivers of organizational performance, empirical evidence regarding their influence remains inconclusive, particularly within the insurance sector. While previous studies have reported positive relationships between digital capabilities and firm performance, most have examined digital transformation as a broad construct without focusing on specific capabilities such as transaction security, digitally-enabled claims processing, and emerging technologies (Heredia et al., 2022; Sousa-Zomer et al., 2020). Furthermore, a significant proportion of existing studies have been conducted in developed economies and outside the insurance industry, limiting the applicability of their findings to Kenya's general insurance sector (Bah & Abila, 2024). In addition, limited attention has been given to the role of governance oversight in shaping the effectiveness of digital capabilities in improving operational performance. Consequently, there remains insufficient empirical evidence on how specific digital capabilities influence the operational performance of general insurance companies in Kenya and whether governance oversight strengthens or weakens these relationships. This gap provided the basis for the present study.

1.1.5 General Insurance Companies in Kenya and their Operational Performance Challenges

General insurance companies are firms that provide non-life insurance products designed to protect individuals, businesses, and assets against specific risks and unforeseen events (Sood et al., 2024). Unlike life insurance, which covers risks related to human life (such as death or retirement), general insurance covers tangible assets and liabilities, offering financial compensation for losses arising from incidents such as accidents, theft, fire, natural disasters, and legal liabilities. General insurance companies in Kenya play a vital role in the country's financial system by providing risk mitigation solutions across sectors such as health, motor, property, marine, and liability insurance (Moturi et al., 2022). These firms contribute significantly to economic stability by protecting individuals and businesses from unforeseen losses, thereby facilitating business continuity and asset protection. The industry is regulated primarily by the Insurance Regulatory Authority (IRA), which operates under the Insurance Act (Cap 487) and is mandated to ensure the stability, fairness, and soundness of the insurance sector. As of 2024, Kenya has 36 licensed general insurance companies, serving a growing and increasingly digital-savvy customer base (Association of Kenya Insurers, 2024).

Despite the importance of the general insurance sector to Kenya's economy, significant operational and financial performance challenges persist. Insurance penetration remains below 3% of GDP, while many insurers continue to experience underwriting losses, rising claims costs, increasing operational expenses, and customer service challenges (AKI, 2024). According to the Insurance Regulatory Authority (IRA, 2023), more than 60% of general insurers reported underwriting losses, while the industry's combined ratio exceeded 100%, indicating that claims and operating expenses outweighed premium income. These findings suggest that operational performance challenges remain widespread across the sector despite growth in premium volumes and ongoing digitalization efforts.

Evidence from industry reports indicates that operational performance challenges within Kenya's general insurance sector have persisted over time despite growth in premium volumes. According to Insurance Regulatory Authority (2005) reports, the sector has consistently recorded elevated claims ratios, rising operating expenses, and underwriting losses in several insurance classes over recent years. The IRA report showed that more than 60% of general insurers reported underwriting

losses, while the industry's combined ratio exceeded 100%, indicating that claims and operating expenses surpassed premium income. In addition, the Association of Kenya Insurers (AKI, 2024) reported continued growth in customer complaints relating to claims settlement delays, disputed claims, and service quality concerns. Although gross written premiums have increased over time, profitability and operational efficiency indicators have not improved proportionately, suggesting that many insurers continue to face challenges in claims management, cost control, customer service delivery, and operational effectiveness.

The operational challenges facing Kenya's general insurance sector appear closely associated with limitations in specific digital capabilities. For example, increasing cases of fraud, cyber risks, and concerns regarding data integrity highlight the importance of transaction security capabilities in safeguarding customer information and financial transactions. Similarly, persistent claims settlement delays and growing customer complaints suggest potential weaknesses in digitally-enabled claims processing systems, which are intended to improve claims automation, processing efficiency, and turnaround times (IRA, 2023; AKI, 2024). Furthermore, the relatively slow adoption of advanced technologies such as artificial intelligence, blockchain, and big data analytics may limit insurers' ability to improve operational efficiency, strengthen risk assessment, enhance customer experience, and reduce operating costs (McKinsey, 2024; Ribanović, 2025). Consequently, transaction security, digitally-enabled claims processing, and emerging technologies represent strategically important digital capability dimensions whose influence on operational performance warrants empirical investigation.

The persistence of these unprofitable or marginally profitable segments underscores the need for strategic interventions aimed at improving operational efficiency and organizational performance within the sector. While multiple factors may contribute to underwriting losses, claims costs, fraud, customer complaints, and operational inefficiencies, existing literature suggests that digital capabilities may play an important role in addressing some of these challenges (Heredia et al., 2022; Sousa-Zomer et al., 2020). For example, transaction security capabilities may help reduce fraud, enhance data protection, and strengthen customer trust (Alharb & Gregg, 2022; Moturi et al., 2022). Similarly, digitally-enabled claims processing may improve claims efficiency, reduce settlement delays, and enhance customer satisfaction through automation and streamlined workflows (Skaf et al., 2024; Vemulapalli, 2024). In addition, emerging technologies such as

artificial intelligence, blockchain, Internet of Things (IoT), and big data analytics may enhance risk assessment, process automation, fraud detection, and decision-making capabilities within insurance firms (Paramesha et al., 2024; Ribanović, 2025; Sood et al., 2024). However, the extent to which these digital capabilities influence operational performance within Kenya's general insurance sector remains insufficiently understood, thereby necessitating further empirical investigation.

1.2 Statement of the Problem

Digital transformation has become increasingly important in the insurance industry as firms seek to improve efficiency, enhance customer experience, and maintain competitiveness in a rapidly changing environment. Digital capabilities such as transaction security, digitally-enabled claims processing, and emerging technologies have gained attention as mechanisms through which insurance firms can streamline operations, improve service delivery, and strengthen organizational performance. Despite increasing investment in digital technologies, many insurance firms continue to experience operational challenges, suggesting that the realization of performance gains from digital transformation remains uneven.

In Kenya, the general insurance sector continues to face operational inefficiencies despite reporting aggregate industry growth. Despite growth in premium income and ongoing digitalization initiatives, the general insurance sector continues to experience operational inefficiencies reflected in underwriting losses, claims settlement delays, fraud exposure, customer complaints, and rising operating costs (IRA, 2023; AKI, 2024). For example, motor commercial insurance reported a combined ratio exceeding 100%, while medical insurance approached break-even levels, indicating inefficiencies associated with claims management, fraud exposure, administrative costs, and service delivery processes (IRA, 2023). These persistent challenges suggest that the sector continues to struggle with achieving consistent operational performance despite increasing digitalization initiatives.

Previous studies have examined the relationship between digital technologies and organizational performance; however, important gaps remain. Conceptually, many studies have focused on broad measures of digital transformation and IT adoption rather than specific digital capabilities such as transaction security, digitally-enabled claims processing, and emerging technologies (Heredia et

al., 2022; Sousa-Zomer et al., 2020; Guo & Xu, 2021). Contextually, most existing studies have been undertaken in developed economies or across manufacturing and cross-sectoral settings, limiting the applicability of their findings to Kenya's general insurance sector (Alharb & Gregg, 2022; Bokhari & Manzoor, 2022; Alemayehu et al., 2021; Aminu, 2024). Methodologically, many studies have relied on secondary data or lacked theoretical integration between the Dynamic Capabilities Theory and Resource-Based View Theory (Matemane et al., 2024; Tetteh & Otioma, 2025; Ntwali et al., 2020). Furthermore, limited attention has been given to the role of governance oversight in shaping the relationship between digital capabilities and operational performance (Guo & Xu, 2021; Lubis, 2022). This study therefore sought to address these conceptual, contextual, methodological, and theoretical gaps by examining the influence of digital capabilities on the operational performance of general insurance companies in Kenya while evaluating the moderating role of governance oversight.

1.3 Main objective of the Study

The main objective of the present study was to evaluate the influence of digital capabilities on the operational performance of general insurance companies in Kenya and to determine the moderating role of governance oversight on this relationship.

1.3.1 Specific Objectives of the Study

The specific objectives for the current research were:

- i. To evaluate the effect of transaction security on operational performance of general insurance companies in Kenya.
- ii. To determine the contribution of digitally-enabled claims processing to operational performance of general insurance companies in Kenya.
- iii. To investigate the impact of emerging technologies on operational performance of general insurance companies in Kenya.
- iv. To assess the moderating effect of governance oversight on digital capabilities and operational performance of general insurance companies in Kenya.

1.4 Research Questions

- i. What effect does transaction security have on the operational performance of general insurance companies in Kenya?
- ii. To what extent does digitally-enabled claims processing contribute to the operational performance of general insurance companies in Kenya?
- iii. What impact do emerging technologies have on the operational performance of general insurance companies in Kenya?
- iv. What is the moderating effect of governance oversight on digital capabilities and the operational performance of general insurance companies in Kenya?

1.5 Significance of the Study

1.5.1 Policymakers

This study addressed the contextual gap in the existing literature by providing empirical evidence on the influence of specific digital capabilities on the operational performance of general insurance companies in Kenya. The findings provide policymakers and regulators, particularly the Insurance Regulatory Authority (IRA), with context-specific insights on how transaction security, digitally-enabled claims processing, and emerging technologies influence operational efficiency and service delivery within the insurance sector. Such evidence can support the formulation of policies, guidelines, and regulatory frameworks that promote effective digital transformation and strengthen the competitiveness and sustainability of Kenya's general insurance industry.

1.5.2 Practice

This study addressed the limited empirical evidence on the specific digital capabilities that drive operational performance within Kenya's general insurance sector. By examining the influence of transaction security, digitally-enabled claims processing, and emerging technologies on operational performance, the study provides practical insights to insurance executives, managers, and decision-makers. The findings can guide firms in prioritizing digital investments, allocating resources more effectively, and developing strategies that enhance operational efficiency, customer service, and organizational performance. The study also provides insights into the role of governance oversight in maximizing the benefits derived from digital capabilities.

1.5.3 Theory

The study contributed to knowledge by addressing several gaps identified in the existing literature on digital capabilities and organizational performance. Conceptually, previous studies have largely examined digital transformation and technology adoption as broad constructs without specifically examining transaction security, digitally-enabled claims processing, and emerging technologies as distinct dimensions of digital capabilities. The study therefore contributed to the literature by providing empirical evidence on the influence of these specific digital capabilities on operational performance. Contextually, the study addressed the limited evidence available from Kenya's general insurance sector by generating sector-specific findings from an emerging market setting. Theoretically, the study enriched the understanding of the relationship between digital capabilities and operational performance by drawing insights from both the Dynamic Capabilities Theory and the Resource-Based View Theory. Furthermore, the study contributed to the limited empirical literature examining the moderating role of governance oversight in the relationship between digital capabilities and operational performance. The findings may therefore serve as a foundation for future research on digital transformation, governance oversight, and organizational performance.

1.6 Scope of the Research

Conceptually, the study focused on the influence of digital capabilities on the operational performance of general insurance companies in Kenya. Specifically, it examined three dimensions of digital capabilities, including transaction security, digitally-enabled claims processing, and emerging technologies, and their impact on operational performance. Additionally, the study considered the moderating role of governance to better understand how internal firm characteristics affect the strength of these relationships. The research did not cover other aspects of digital transformation such as customer experience systems or marketing automation, nor does it extend to life insurance or microinsurance firms.

Geographically, the study was confined to Kenya, with a focus on 36 licensed general insurance companies operating within the country, which formed the population of this study. The sample consisted of 63 respondents drawn from 34 insurance companies. Methodologically, the study adopted a quantitative research design, employing a descriptive cross-sectional design wherein

structured questionnaires were administered to key personnel within the insurance companies, such as operations managers, IT managers, and finance and strategy executives. Qualitative methods such as interviews or case studies were outside the scope of this research. This research was conducted between March and April 2026.

1.7 Organization of the Dissertation

This chapter has introduced the study by outlining the background that highlights the persistent performance challenges facing general insurance companies in Kenya, and emphasizing the role of digital capabilities as a potential solution. The statement of the problem has also been discussed, which identifies contextual, conceptual, and methodological gaps. The chapter also outlined the study objectives, significance and scope of the proposed research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews existing literature relevant to the study by examining both theoretical foundations and empirical evidence on the relationship between digital capabilities and operational performance. It begins with a theoretical review that discusses key frameworks underpinning digital transformation and operational performance, followed by a review of empirical studies on transaction security, digitally enabled claims processing, and emerging technologies. It also identifies gaps in the current body of knowledge, presents the conceptual framework to guide the current study, and the operationalization of the variables.

2.2 Theoretical Review

This section presents the theoretical foundations that underpinned the current study. Given the multifaceted nature of digital transformation and operational performance, a multi-theoretical approach was adopted to provide a more comprehensive understanding of the complex dynamics at play. Relying on a single theoretical lens would be insufficient to capture the interplay between digital capabilities, organizational resources, and contextual moderators such as governance. Therefore, the study integrates the Dynamic Capabilities Theory (DCT) and the Resource-Based View (RBV) Theory. DCT offers insights into how firms adapt and reconfigure internal competencies in response to environmental changes while RBV Theory emphasizes the role of internal resources such as digital tools and technologies as sources of sustained competitive advantage (Cristofaro & Lovallo, 2022). The integration of these perspectives enabled a deeper analysis of how digital capabilities are developed and deployed to influence operational performance within the dynamic and competitive environment of Kenya's general insurance sector.

2.2.1 Dynamic Capabilities Theory

The Dynamic Capabilities Theory (DCT), proposed by David Teece, Gary Pisano and Amy Shuen, was adopted as the anchoring theoretical framework for this study (Brewis et al., 2023). The theory was developed to explain how firms adapt, innovate, and achieve competitive advantage in rapidly

changing environments by leveraging internal competencies in a dynamic manner (Cristofaro & Lovallo, 2022). According to the theory, dynamic capabilities are defined as the firm's ability to integrate, build, and reconfigure internal and external resources to address rapidly changing environments (Land et al., 2022). The central tenet of the theory is that in fast-evolving industries, sustained competitive advantage derives from a firm's capacity to sense opportunities and threats, seize emerging opportunities, and transform its resource base to align with market demands (Brewis et al., 2023).

The core postulation of DCT is that firms that possess dynamic capabilities are better positioned to sense opportunities and threats, seize market opportunities, and transform their organizational processes to maintain competitiveness. These capabilities are not simply operational routines but are strategic processes that support sustained performance through learning and innovation (Kibor, 2024). According to Brewis et al. (2023), dynamic capabilities are comprised of three core components: sensing (identifying and assessing opportunities and threats), seizing (mobilizing resources to capture opportunities), and transforming (realigning organizational processes and structures). Firms that master these processes are more likely to maintain relevance and superior performance in volatile and competitive markets (Cristofaro & Lovallo, 2022). As a result, DCT provides lens to examine how digital transformation efforts, such as investments in transaction security, digitally-enabled claims processing, and emerging technologies, can influence operational performance.

The Dynamic Capabilities Theory offers several strengths that made it particularly relevant to this study. First, it provides a strategic framework for understanding how firms can leverage intangible assets, such as digital capabilities, to enhance performance in complex environments (Land et al., 2022). Second, it links firm-level competencies directly to outcomes such as innovation, customer satisfaction, and financial performance (Buzzao & Rizzi, 2021); thus, aligning well with the objectives of this research. Third, the theory accommodates organizational heterogeneity by recognizing that firms differ in their ability to sense and respond to change, a feature that aligns with the study's interest in moderating factors such as governance (Cristofaro & Lovallo, 2022). Its focus on adaptability makes it well-suited for examining digital transformation, where firms are required to continuously integrate new technologies and processes (Kibor, 2024).

However, the theory is not without limitations. A primary limitation is its lack of conceptual clarity and measurement precision, which makes empirical testing challenging. Scholars have often debated how dynamic capabilities can be operationalized, and whether certain capabilities qualify as dynamic or merely operational (Land et al., 2022). A commonly cited weakness is the difficulty in operationalizing and empirically measuring dynamic capabilities given their abstract and process-oriented nature. This ambiguity may pose challenges in translating theoretical constructs into quantifiable variables (Holbeche, 2023). Moreover, the theory tends to focus predominantly on internal firm dynamics and may underplay the role of external institutional, technological, or regulatory influences unless complemented by other frameworks (Buzzao & Rizzi, 2021). Finally, dynamic capabilities are often identified ex-post, which limits the theory's predictive utility in real-time strategic decision-making (Kibor, 2024).

Despite its limitations, DCT offered a foundation for the present study. In this context, digital capabilities are viewed as dynamic capabilities that enable firms to sense technological opportunities (such as through emerging technologies), seize them through strategic deployment (such efficient claims processing systems), and transform operations (via secure digital transaction infrastructures). These capabilities support organizational responsiveness, customer engagement, and cost-efficiency.

There is a conceptual alignment between the study objectives and DCT. Specifically, transaction security (Objective 1) is framed as a strategic digital capability that builds trust and enhances service efficiency, reflecting the sensing and transformation functions emphasized in DCT (Pu & Liu, 2023). Digitally enabled claims processing (Objective 2) is interpreted as a reconfiguration of core operational routines through digitization, directly aligning with the transformative aspect of dynamic capabilities (Ntwali et al., 2020). The adoption of emerging technologies (Objective 3), such as AI, blockchain, and IoT, exemplifies a firm's ability to seize technological innovations and integrate them into value-creating processes (Subbian, 2025). Lastly, the moderating variable, including governance (Objective 4), is linked to DCT's recognition that internal organizational characteristics influence the extent to which dynamic capabilities can be effectively developed and deployed. Governance structures, including the presence of independent boards and strategic oversight mechanisms, may also determine the extent to which firms are willing and able to invest in digital transformation (Joseph & Falana, 2021). DCT acknowledges that such organizational

factors can either facilitate or constrain the dynamic capability process, and thus influence operational performance outcomes.

2.2.2 Resource-Based View Theory

The Resource-Based View (RBV) Theory of the firm, initially conceptualized by Birger Wernerfelt, provides a foundational perspective for understanding how internal firm resources contribute to competitive advantage and superior performance. RBV postulates that firms achieve sustained competitive advantage when they possess and effectively deploy resources that are valuable, rare, inimitable, and non-substitutable (VRIN) (Barney et al., 2021). These strategic resources may be tangible, such as financial assets and infrastructure, or intangible, including technological capabilities, organizational culture, human capital, and knowledge systems (Barney et al., 2021).

RBV Theory offers a framework to examine digital capabilities, such as transaction security systems, claims processing infrastructure, and emerging technologies, as key strategic assets that can drive firm performance (Barney et al., 2021). In this view, the possession and strategic application of digital capabilities differentiate firms in competitive environments by enabling efficiency, innovation, and responsiveness, which in turn contributed to enhanced performance. For instance, a firm that has developed a secure and reliable digital platform for customer transactions may be better positioned to attract and retain clients in an increasingly digital economy (Lubis, 2022). Likewise, firms that have invested in advanced claims automation tools or artificial intelligence can realize significant operational efficiencies and improved service delivery, thereby enhancing both financial and customer performance metrics (Davis & DeWitt, 2021).

One of the main strengths of RBV Theory is its internal focus, which allows for a detailed examination of how firm-specific resources and capabilities contribute to organizational outcomes (Davis & DeWitt, 2021). It emphasizes heterogeneity among firms, acknowledging that even within the same industry, companies may possess different resource profiles that influence their ability to perform (Barney et al., 2021). This view is particularly relevant for the current study, which explores how digital capabilities, resources that are developed internally and customized to each firm's strategic context, can influence performance outcomes among general insurance companies in Kenya.

However, the RBV Theory is not without its criticisms. A key limitation lies in its relative neglect of external environmental factors, such as technological change, market dynamics, and regulatory pressures, which may significantly affect resource value and deployment (Dionysus & Arifin, 2020). The theory assumes a relatively stable environment in which internal resources are the primary determinants of performance, which may not fully capture the complexity of digital transformation in highly dynamic industries (Putra et al., 2023). Additionally, the theory offers limited guidance on how firms can build or acquire the VRIN resources needed for competitive advantage, making it somewhat static in its original form (Cristofaro & Lovallo, 2022).

In the context of this study, The RBV Theory complemented the DCT Theory by emphasizing the strategic value of digital capabilities as firm-specific assets. While DCT focuses on the processes through which firms adapt and reconfigure these capabilities, the RBV Theory highlights their role as foundational resources that can directly influence performance when leveraged effectively (Barney et al., 2021). Transaction security (Objective 1), for example, can be seen as a rare and valuable resource that enhances customer trust and protects firm reputation (Pu & Liu, 2023). Similarly, advanced claims processing systems (Objective 2) and the adoption of emerging technologies (Objective 3) represent unique and often inimitable capabilities that offer operational and strategic benefits (Ntwali et al., 2020).

Furthermore, the RBV Theory supports the examination of moderating variables such governance, since this factor often shapes a firm's resource base and its ability to accumulate or exploit strategic assets. Effective governance, on the other hand, can ensure that resources are allocated and utilized in a manner that aligns with the firm's strategic objectives (Lubis, 2022).

In summary, the Dynamic Capabilities Theory and the Resource-Based View Theory provide complementary perspectives for explaining the relationship between digital capabilities and operational performance. While the Resource-Based View Theory emphasizes digital capabilities as valuable organizational resources that can generate competitive advantage and improved performance, the Dynamic Capabilities Theory explains how firms continuously develop, integrate, and reconfigure these capabilities in response to changing environmental conditions. Together, the two theories provide a comprehensive framework for understanding how transaction security, digitally-enabled claims processing, and emerging technologies influence operational

performance, and how governance oversight may strengthen or weaken these relationships within general insurance companies in Kenya.

2.3 Empirical Review

This section presents a critical review of existing empirical studies related to the influence of digital capabilities on operational performance. The review is structured around the key variables of the study, which include transaction security, digitally enabled claims processing, and emerging technologies, as well as the moderating role of governance. Firm size and firm age are also discussed as control variables due to their potential influence on operational performance

2.3.1 Transaction Security and Operational Performance

Transaction security refers to the set of technological, procedural, and organizational safeguards that ensure the confidentiality, integrity, and authenticity of data and financial transactions within digital systems (Alharb & Gregg, 2022). In the context of insurance, it encompasses cybersecurity infrastructure, data encryption protocols, access controls, fraud detection mechanisms, and secure payment or claims processing platforms. As digital transactions become more prevalent, transaction security has evolved into a critical organizational capability, particularly for firms handling sensitive personal and financial information, such as general insurance companies (AKI, 2024). From the perspective of RBV, transaction security can be viewed as a valuable, rare, and inimitable resource that contributes to a firm's ability to build trust, protect its reputation, and maintain customer loyalty (Ndei & Ngugi, 2022). Meanwhile, the DCT positions transaction security as a dynamic capability that enables firms to respond to evolving digital threats and regulatory demands by continuously upgrading their systems and practices. For general insurance firms in Kenya, where cybercrime is on the rise and public trust in financial services is often fragile, transaction security is not only a compliance requirement but also a strategic asset (Moturi et al., 2022). Robust security measures help mitigate operational risks, reduce fraud-related losses, and improve the reliability of digital service delivery, factors that are directly linked to both operational performance (McKinsey, 2024). As the sector increasingly digitizes claims processing, customer onboarding, and policy management, ensuring secure digital interactions becomes central to sustaining competitiveness and meeting regulatory standards.

A growing body of empirical research suggests that transaction security and related cybersecurity capabilities can positively influence organizational performance. Bokhari and Manzoor (2022) found that implementation of the ISO 27001 Information Security Management System enhanced corporate reputation, branding, and financial performance among firms in Pakistan. Similarly, Aminu (2024) reported a positive and significant relationship between cybersecurity investments and organizational performance among Nigerian food and beverage firms, particularly in relation to profitability, shareholder value, and regulatory compliance. Alharb and Gregg (2022) also found that strategic alignment between IT investments and security investments contributed positively to firm performance among U.S. firms. Collectively, these studies suggest that investments in security capabilities can create value through enhanced trust, improved compliance, stronger organizational reputation, and reduced exposure to cyber-related risks.

Despite this general consensus, the literature presents mixed evidence regarding the magnitude and nature of the relationship between transaction security and performance. While Bokhari and Manzoor (2022), Aminu (2024), and Alharb and Gregg (2022) reported positive performance outcomes associated with security investments, Matemane et al. (2024) found that cybersecurity risk disclosure negatively affected firm performance among firms listed on the Johannesburg Stock Exchange. Their findings suggest that while cybersecurity capabilities may enhance internal performance, public disclosure of cybersecurity risks may generate negative market perceptions that adversely affect organizational value. These contrasting findings indicate that the relationship between transaction security and performance may depend on contextual factors such as regulatory environments, stakeholder perceptions, and organizational governance structures.

The reviewed studies also differ considerably in terms of performance measures and methodological approaches. Whereas Bokhari and Manzoor (2022) focused on reputation and branding outcomes, Aminu (2024) emphasized profitability and shareholder value, Alharb and Gregg (2022) examined financial performance, and Tetteh and Otioma (2025) investigated labour productivity. Consequently, the operational dimensions of performance most relevant to insurance firms, such as claims turnaround time, transaction processing efficiency, customer satisfaction, and service quality, remain largely underexplored. Methodologically, the studies employed diverse approaches including descriptive surveys, ex-post facto designs, econometric modelling, and secondary data analysis. Although these approaches provide valuable insights, most studies relied

on non-insurance samples or secondary datasets, limiting their ability to capture organization-specific operational realities.

The contextual relevance of the existing evidence to Kenya's general insurance sector is also limited. The reviewed studies were conducted in Pakistan, the United States, Nigeria, South Africa, and a multi-sectoral Kenyan setting, each characterized by different regulatory environments, technological maturity levels, and organizational contexts. Furthermore, most studies examined cybersecurity or information security broadly rather than transaction security as a distinct digital capability. Theoretically, while some studies implicitly align with the Resource-Based View by treating security capabilities as strategic resources, limited attention has been given to the Dynamic Capabilities Theory and the need for firms to continuously adapt security mechanisms to evolving cyber threats. Consequently, there remains a conceptual gap regarding transaction security as a specific digital capability, a contextual gap relating to Kenya's insurance sector, a methodological gap concerning the use of insurance-specific operational performance measures, and a theoretical gap regarding the integrated application of RBV and DCT. The present study seeks to address these gaps by examining the influence of transaction security on the operational performance of general insurance companies in Kenya.

2.3.2 Digitally-Enabled Claims Processing and Operational Performance

Digitally-enabled claims processing refers to the use of advanced technologies like Artificial Intelligence (AI), machine learning, and automation to streamline the traditional, often paper-based, process of receiving, assessing, and settling claims (Skaf et al., 2024). This transformation significantly enhances efficiency, accuracy, and customer experience, primarily within the insurance, healthcare, and finance industries (Ntwali et al., 2020). In the insurance industry, claims processing represents a core operational function that directly influences customer trust, retention, and perceptions of service quality (Vemulapalli, 2024). With respect to the RBV theory, claims processing systems and associated digital tools can be seen as valuable and inimitable organizational resources that provide competitive advantage by enhancing internal efficiency and customer responsiveness (Ntwali et al., 2020). The DCT, on the other hand, emphasizes the firm's ability to continuously adapt and reconfigure these systems in response to evolving customer expectations, regulatory demands, and technological innovations. For general insurance companies in Kenya, improving claims processing efficiency is particularly critical given the

industry's persistent challenges with delayed settlements, customer dissatisfaction, and reputational risks (Ribanović, 2025). Efficient digital claims systems not only reduce operational costs and fraud risk but also enhance customer experience and loyalty, which are vital for sustaining operational performance in an increasingly digital and competitive insurance landscape (Wiktorsson, 2024).

Claims processing efficiency has become a critical area of focus in the insurance sector as firms increasingly rely on technology-enabled systems to improve service delivery, customer satisfaction, and organizational performance. A substantial body of empirical evidence suggests that digitalization and automation of claims processes contribute positively to operational outcomes. For example, Subbian (2025) reported that the adoption of AI, machine learning, and predictive analytics in claims processing reduced claims cycle time by 50%, improved fraud detection accuracy by 25%, and increased customer satisfaction by 35% within the U.S. property and casualty insurance sector. Similarly, Alemayehu et al. (2021) found that the adoption of ERP systems improved operational efficiency among hospitality firms in Norway, while Yego et al. (2021) established a significant positive relationship between process innovation and firm performance among SMEs in Kenya. Although conducted in different sectors, these studies collectively suggest that digital process automation can improve efficiency, responsiveness, and organizational performance.

Studies conducted within the insurance industry have also generally reported positive associations between claims management efficiency and firm performance. Yusuf and Ajemunigbohun (2016) found that prompt and effective claims handling significantly enhanced productivity and fraud detection among Nigerian insurers. Likewise, Ntwali et al. (2020) reported that claims planning and claims monitoring practices positively influenced financial performance in Rwanda's insurance sector, while Omweri et al. (2024) established a significant positive relationship between claims risk management and financial performance among insurance companies in Kenya. Collectively, these studies reinforce the view that efficient claims management is a critical determinant of organizational success within insurance markets.

Despite this broad consensus, the literature presents important conceptual differences regarding what constitutes claims processing capability. Whereas Subbian (2025) focused specifically on advanced digital technologies such as AI and machine learning, Yusuf and Ajemunigbohun (2016),

Ntwali et al. (2020), and Omweri et al. (2024) examined claims management more broadly without isolating the role of digital technologies. Similarly, Yego et al. (2021) and Alemayehu et al. (2021) investigated general process innovations and enterprise systems rather than digitally-enabled claims processing specifically. Consequently, while the literature acknowledges the importance of efficient claims processes, limited attention has been given to digitally-enabled claims processing as a distinct organizational capability.

The findings are also not entirely consistent. While most studies reported positive performance outcomes, Ogunwale et al. (2024) found that claims processing efficiency had a positive but statistically insignificant relationship with net profit margin. This suggests that improvements in claims processing may not automatically translate into superior organizational performance and that the relationship may be influenced by other organizational factors such as governance structures, firm characteristics, technological maturity, or implementation quality. The mixed evidence therefore points to the need for further investigation into the conditions under which digitally-enabled claims processing contributes to performance.

Methodologically, the reviewed studies employed diverse approaches including quasi-experimental designs (Subbian, 2025), stochastic frontier analysis (Alemayehu et al., 2021), cross-sectional surveys (Yusuf & Ajemunigbohun, 2016), case studies (Ntwali et al., 2020), descriptive surveys (Omweri et al., 2024), and ex-post facto designs (Ogunwale et al., 2024). While this methodological diversity enriches understanding of claims management, most studies focused on financial performance indicators such as ROI, ROE, profitability, and productivity rather than operational performance measures such as claims turnaround time, transaction efficiency, customer satisfaction, and service quality. Furthermore, few studies relied on theory-driven models to explain why digitally-enabled claims processing creates value for organizations.

The contextual relevance of existing evidence to Kenya's general insurance sector also remains limited. Most studies were conducted in the United States, Norway, Nigeria, and Rwanda, while the few Kenyan studies focused on SMEs or general claims management rather than digitally-enabled claims processing. The literature therefore reveals a conceptual gap regarding digitally-enabled claims processing as a distinct digital capability, a contextual gap relating to Kenya's general insurance industry, a methodological gap concerning the use of insurance-specific operational performance measures, and a theoretical gap arising from the limited application of

Resource-Based View and Dynamic Capabilities Theory. The present study seeks to address these gaps by examining the influence of digitally-enabled claims processing on the operational performance of general insurance companies in Kenya.

2.3.3. Emerging Technologies and Operational Performance

Emerging technologies are increasingly recognized as important drivers of organizational efficiency and performance. Several studies have demonstrated that technologies such as artificial intelligence (AI), machine learning, blockchain, and automation can enhance operational effectiveness by reducing inefficiencies, improving decision-making, and enabling process optimization. For example, Wamba-Taguimdje et al. (2020), through an archival analysis of 500 case studies, found that AI improved both process-level and organizational-level performance by enhancing operational efficiency and supporting strategic decision-making. Similarly, Hwang and Kim (2022) reported that firms adopting Fourth Industrial Revolution (4IR) technologies achieved significantly higher technical efficiency than non-adopters, while Mishra et al. (2022) found that firms with a stronger emphasis on AI recorded higher operating efficiency and profitability. Collectively, these studies suggest that emerging technologies can improve organizational performance through process optimization, productivity enhancement, and data-driven decision-making.

A second stream of literature focuses on the broader performance implications of emerging technologies. Joseph and Falana (2021) found that AI adoption positively influenced bottom-line performance among Nigerian firms, while Chege et al. (2020) established a significant positive relationship between technology innovation and firm performance among Kenyan SMEs. Similarly, Sun and Jiao (2023) reported that investments in emerging technologies improved organizational performance through the development of digital options, which enabled firms to exploit future opportunities and enhance strategic flexibility. These studies collectively support the argument that emerging technologies can create competitive advantages and improve both operational and financial outcomes. However, they differ in their conceptualization of technology adoption, with some focusing on specific technologies such as AI, while others examine broader innovation or digital transformation initiatives.

Despite the generally positive findings, the literature also highlights important contextual and implementation challenges. Okoye et al. (2023) identified infrastructure limitations, policy constraints, and organizational readiness as major barriers to technology adoption in developing economies. Furthermore, the reviewed studies were conducted in diverse contexts including the United States, China, South Korea, Nigeria, and Kenyan SMEs. The technological infrastructure, regulatory environments, organizational capabilities, and market conditions characterizing these contexts differ significantly from those of Kenya's insurance industry. Consequently, findings obtained from large listed firms, manufacturing organizations, or SMEs may not be directly applicable to general insurance companies operating within a highly regulated service environment. These contextual differences suggest that the performance benefits of emerging technologies may vary across industries and institutional settings.

Methodologically, the reviewed studies employed diverse approaches including archival analysis (Wamba-Taguimdje et al., 2020), content analysis (Okoye et al., 2023), econometric modelling (Sun & Jiao, 2023; Hwang & Kim, 2022), and survey-based quantitative designs (Joseph & Falana, 2021; Chege et al., 2020). While this methodological diversity enriches understanding of technology adoption, most studies focused on manufacturing firms, SMEs, or publicly listed companies and measured performance using productivity, profitability, efficiency, or innovation outcomes. Limited attention has been given to operational performance measures that are particularly relevant to insurance firms, such as claims turnaround time, transaction processing efficiency, customer satisfaction, and service quality. Furthermore, most studies examined individual technologies in isolation rather than investigating the combined influence of multiple emerging technologies such as AI, blockchain, IoT, and advanced analytics.

The literature therefore reveals several important gaps. Conceptually, limited research has examined emerging technologies as an integrated digital capability influencing operational performance. Contextually, there is little evidence from Kenya's general insurance sector despite its unique regulatory environment and varying levels of digital maturity. Methodologically, few studies have utilized primary organizational data to examine insurance-specific operational outcomes. Theoretically, the literature lacks a consistent application of Resource-Based View and Dynamic Capabilities Theory to explain how emerging technologies function simultaneously as strategic resources and adaptive capabilities. This study addresses these conceptual, contextual,

methodological, and theoretical gaps by examining the influence of emerging technologies on the operational performance of general insurance companies in Kenya.

2.3.4 Organizational Characteristics and the Relationship Between Digital Capabilities and Operational Performance.

Empirical studies have increasingly examined whether organizational characteristics influence the relationship between strategic capabilities and organizational performance. A substantial body of evidence suggests that firm size and firm age can shape the extent to which organizations derive value from innovation and capability development. For example, Farooq et al. (2021) found that firm size positively moderated the relationship between innovation orientation and business performance among Indian firms, while Mabenge et al. (2022) reported that innovation generated stronger performance outcomes among younger and larger firms in Zimbabwe. Similarly, Kijkasiwat and Phuensane (2020) established that firm size and financial capital influenced the innovation-performance relationship across SMEs in Eastern Europe and Central Asia. Collectively, these studies suggest that organizational characteristics can affect how effectively firms leverage strategic capabilities to generate performance improvements.

Despite this general support for moderation effects, the literature presents inconsistent findings regarding the direction and significance of these relationships. While Farooq et al. (2021) and Mabenge et al. (2022) reported positive moderating effects of firm size and age, Kijkasiwat and Phuensane (2020) found that the influence of firm size varied across institutional contexts, producing both positive and negative effects. In contrast, Kitenga et al. (2020), in a Kenyan study, found no statistically significant moderating effect of firm size on the relationship between dynamic capabilities and firm performance. These conflicting findings suggest that the moderating role of organizational characteristics may be contingent upon industry context, organizational environment, and the specific capabilities being examined.

A notable limitation across the reviewed studies is their primary focus on firm size and firm age while largely overlooking governance as an organizational characteristic. Existing studies tend to conceptualize moderation in terms of demographic or structural attributes, yet governance structures play a critical role in shaping strategic decision-making, risk management, resource allocation, and technology adoption. Effective governance may determine how successfully firms

develop and deploy digital capabilities and translate them into improved operational outcomes. The limited empirical attention given to governance therefore represents an important conceptual gap in the literature.

Methodologically, the reviewed studies employed quantitative approaches including cross-sectional surveys, moderated regression analysis, Structural Equation Modelling (SEM), and Partial Least Squares Structural Equation Modelling (PLS-SEM). While these approaches provide useful insights into moderation effects, most studies focused on manufacturing firms, SMEs, or broad innovation activities rather than digital capabilities within the insurance sector. Furthermore, the studies were conducted in India, Zimbabwe, Eastern Europe, Central Asia, and manufacturing firms in Kenya, contexts that differ significantly from Kenya's highly regulated insurance industry. As a result, the generalizability of their findings to general insurance companies remains limited.

The literature therefore reveals several unresolved gaps. Conceptually, previous studies have focused primarily on innovation and dynamic capabilities broadly rather than specific digital capabilities such as transaction security, digitally-enabled claims processing, and emerging technologies. Contextually, little empirical evidence exists within Kenya's general insurance sector. Methodologically, studies have largely concentrated on firm size and age while paying limited attention to governance as a moderating variable. Theoretically, insufficient attention has been given to how governance facilitates the reconfiguration and deployment of organizational resources and capabilities as proposed by Resource-Based View and Dynamic Capabilities Theory. This study addresses these gaps by examining governance as a moderating variable while controlling for firm size and firm age in the relationship between digital capabilities and operational performance among general insurance companies in Kenya.

2.4 Summary of Literature and Research Gaps

The reviewed literature reveals several conceptual, contextual, theoretical, methodological, and sectoral gaps that this study seeks to address. With regard to conceptual gaps, many studies focus narrowly on broad constructs such as innovation orientation or IT investments (Farooq et al., 2021; Mabenge et al., 2022), without disaggregating specific digital capabilities such as transaction security, digitally enabled claims processing, and emerging technologies; thus, overlooking their distinct mechanisms of influence on operational performance. In relation to contextual gaps, most

empirical studies have been conducted in non-African settings, including Asia and Europe (Sun & Jiao, 2023; Wamba-Taguimdje et al., 2020), with limited relevance and applicability to the Kenyan general insurance sector, which operates in a markedly different regulatory and technological environment. In addition, while the RBV and DCT are frequently cited (Alharb & Gregg, 2022; Kitenga et al., 2020), few studies explicitly integrate both to explain how firms reconfigure digital capabilities under dynamic market conditions, which creates a theoretical gap that this study addressed by combining both perspectives.

With respect to methodological gaps, several studies have employed exploratory or qualitative designs (Kijkasiwat & Phuensane, 2020; Okoye et al., 2023), or relied on sector-specific secondary data (Sun & Jiao, 2023), whereas this study adopts a descriptive cross-sectional design using primary data tailored to the Kenyan insurance context. Moreover, there is a notable scarcity of studies focused on general insurance firms in Kenya, with most local research centered on SMEs (Chege et al., 2020; Yego et al., 2021) or manufacturing firms (Kitenga et al., 2020), which indicates a sectoral gap. This study sought to fill this gap by generating sector-specific insights into how digital capabilities and firm-level characteristics influence performance in the Kenyan general insurance industry.

Table 2.1: Summary of research gaps

Authors	Country of Study	Research Methodology Used	Findings	Research Gaps	Focus of the Current Study
Bokhari & Manzoor (2022)	Pakistan	Quantitative; descriptive cross-sectional survey with regression analysis	ISMS significantly improves firm performance through branding and reputation	Conceptual gap (focused on ISO certification rather than broader transaction security); contextual gap (non-African context)	Examining transaction security as a digital capability in Kenyan general insurance firms
Alharb & Gregg (2022)	USA	Quantitative; cross-sectional OLS regression	IT and security investments affect performance differently; security often seen as insurance rather than strategic investment	Theoretical gap (lacked RBV/DCT perspective); conceptual gap (treated security as protective, not strategic capability)	Framing transaction security as a dynamic capability influencing performance outcomes
Aminu (2024)	Nigeria	Quantitative; ex-post facto design with regression analysis	Cybersecurity enhances profitability and shareholder value	Sectoral gap (focused on food & beverage, not insurance); methodological gap (not descriptive cross-sectional)	Investigating cybersecurity (transaction security) and its performance link in Kenyan general insurance firms
Subbian (2025)	USA	Quasi-experimental; pre/post analysis	AI and automation reduced claims cycle time and improved accuracy, satisfaction, and cost efficiency	Contextual gap (non-African setting); theoretical gap (did not apply DCT/RBV)	Evaluate role of emerging technologies (AI/automation) on operational performance in Kenya
Yusuf & Ajemunigbohun (2016)	Nigeria	Quantitative; cross-sectional survey with one-sample T-test	Prompt claims handling enhances fraud detection and	Methodological gap (non-robust statistical model); theoretical gap	Assess digitally-enabled claims processing within dynamic capabilities framework

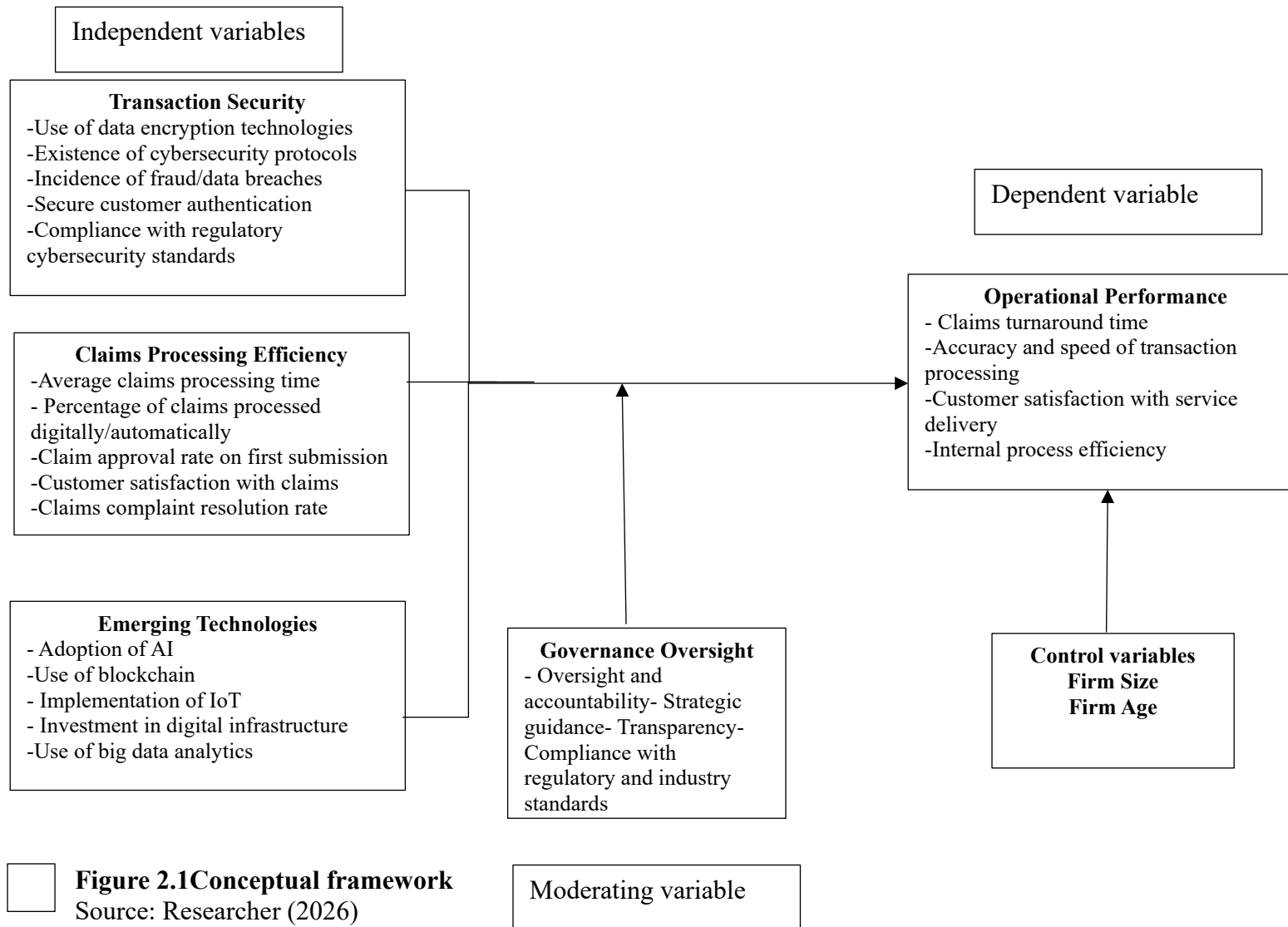
Authors	Country of Study	Research Methodology Used	Findings	Research Gaps	Focus of the Current Study
			operational efficiency	(no linkage to DCT/RBV)	
Ntwali et al. (2020)	Rwanda	Mixed methods; descriptive design with Pearson correlation analysis	Claims planning, monitoring, and evaluation positively correlate with ROI and ROE	Sectoral gap (single firm study); contextual gap (non-Kenyan); limited generalizability	Analyze claims efficiency and operational performance among general insurance companies in Kenya
Omweri et al. (2024)	Kenya	Quantitative; descriptive design with regression analysis	Claims risk management has significant positive effect on ROE and financial performance	Conceptual gap (focused on risk, not full claims processing efficiency); limited tech consideration	Evaluate holistic claims processing efficiency (speed, tech, accuracy) and impact on operational performance
Wamba-Taguimdje et al. (2020)	Multi-country/global	Archival analysis of 500 AI case studies across sectors	AI improves organizational and process performance when processes are reconfigured	Contextual gap (non-African); sectoral gap (non-insurance focused); theoretical gap (no RBV/DCT integration)	Explore AI and emerging tech as dynamic capabilities enhancing operational performance in general insurance
Sun & Jiao (2023)	China	Quantitative; propensity score matching and econometric modeling	IT investment effects on performance are fully mediated by digital options	Contextual gap (China); conceptual gap (emerging tech not assessed in African insurance context)	Assess how emerging tech influences operational performance in Kenya's general insurance sector
Chege et al. (2020)	Kenya	Quantitative; SEM with structured survey data	Tech innovation positively influences firm performance, moderated by innovativeness	Conceptual gap (focused on SMEs, not insurers); limited attention to emerging technologies	Investigate role of emerging digital tech in operational performance in General Insurance companies in Kenya

Authors	Country of Study	Research Methodology Used	Findings	Research Gaps	Focus of the Current Study
Farooq et al. (2021)	India	Quantitative; SEM and multi-group moderation	Innovation positively affects performance; firm size (by employees) moderates this relationship	Moderator conceptualization gap (only size); context gap (India); no focus on insurance or digital capabilities	Examine the influence of organizational characteristics and the moderating role of governance on the relationship between digital capabilities and operational performance in general insurance firms
Mabenge et al. (2022)	Zimbabwe	Quantitative; cross-sectional with regression and SEM	Marketing innovation positively affects performance more in large and young firms	Contextual gap (Zimbabwe); conceptual gap (limited to innovation); did not consider governance	Analyze the influence of organizational characteristics and governance on the relationship between digital capabilities and operational performance
Kitenga et al. (2020)	Kenya	Quantitative; cross-sectional survey with multiple regression	Dynamic capabilities improve performance, but firm size does not significantly moderate	Moderator findings inconclusive; conceptual gap (did not assess digital/claims/tech capabilities); sectoral gap (focused on manufacturing)	Examine governance as a moderating variable while controlling for firm size and firm age in the relationship between digital capabilities and operational performance

Source: Researcher (2026)

2.5 Conceptual Framework

The study operationalized digital capabilities using three dimensions: transaction security, digitally-enabled claims processing, and emerging technologies. Transaction security was measured through indicators relating to data protection, cybersecurity practices, fraud prevention, secure authentication, and compliance with cybersecurity standards (Alharb & Gregg, 2022; Bokhari & Manzoor, 2022). Digitally-enabled claims processing was assessed using indicators related to claims automation, processing efficiency, customer satisfaction, and claims resolution effectiveness (Skaf et al., 2024; Vemulapalli, 2024). Emerging technologies were measured through the adoption and utilization of technologies such as artificial intelligence, blockchain, Internet of Things (IoT), digital infrastructure, and big data analytics (Paramesha et al., 2024; Mishra et al., 2022). Operational performance was measured using claims turnaround time, transaction processing efficiency, customer satisfaction, and internal process efficiency (Ndei & Ngugi, 2022; Kitenga et al., 2020). Governance oversight was included as a moderating variable and assessed through oversight, strategic guidance, transparency, and compliance (Kavadis & Thomsen, 2023). In addition, firm size and firm age were incorporated as control variables because of their potential influence on organizational performance (Sousa-Zomer et al., 2020; Kitenga et al., 2020). Figure 2.1 presents the conceptual framework illustrating the hypothesized relationships among the study variables.



2.6 Operationalization of Study Variables

Table 2.2 shows how the variables in this study were operationalized. The study measured the latent constructs using multiple Likert-scale items. While individual questionnaire items were measured on an ordinal scale, responses were aggregated to generate composite scores for each construct. The resulting composite indices were treated as continuous variables during statistical analysis, consistent with common practice in regression-based organizational research.

Table 2.2 Operationalization of variables

Variable	Indicators	Measurement	Literature Source	Questionnaire Items
Operational performance (Dependent variable)	- Claims turnaround time -Accuracy and speed of transaction processing -Customer satisfaction with service delivery -Internal process efficiency	Ordinal (5-point Likert Scale)	Angima & Mwangi (2017); Omweri et al. (2024); Mishra et al. (2022)	Section VIII
Transaction Security (Independent variable)	-Use of data encryption technologies -Existence of cybersecurity protocols - Incidence of fraud/data breaches -Secure customer authentication -Compliance with regulatory cybersecurity standards	Ordinal (5-point Likert Scale)	Bokhari & Manzoor (2022); Alharb & Gregg (2022); Subbian (2025)	Section II
Digitally-enabled Claims Processing (Independent variable)	-Average claims processing time - Percentage of claims processed digitally/automatically -Claim approval rate on first submission -Customer satisfaction with claims -Claims complaint resolution rate	Ordinal (5-point Likert Scale)	Subbian (2025); Yusuf & Ajemunigbohun (2016); Ntwali et al. (2020)	Section III

Emerging Technologies (Independent variable)	- Adoption of AI -Use of blockchain - Implementation of IoT - Investment in digital infrastructure -Use of big data analytics	Ordinal (5-point Likert Scale)	Wamba-Taguimdje et al. (2020); Sun & Jiao (2023); Chege et al. (2020)	Section IV
Firm Size (Control)	- Natural logarithm of total assets	Continuous (Direct numerical entry)	Farooq et al. (2021); Mabenge et al. (2022); Kitenga et al. (2020)	Section V
Firm Age (Control)	- Number of years since company incorporation	Continuous (Direct numerical entry)	Mabenge et al. (2022)	Section VI
Governance Oversight (Moderator)	- Oversight and accountability- Strategic guidance- Transparency- Compliance with regulatory and industry standards	Continuous; composite score (average of 5-point Likert items); higher score = stronger governance	Kitenga et al. (2020)	Section VII

Source: Researcher (2026)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology that was employed to achieve the objectives of the study. It outlines the research philosophy, design, and the target population, as well as the sampling procedures that were used to select respondents. The chapter also describes the data collection methods, strategies for ensuring the validity and reliability of the research instruments, and the analytical techniques that were applied to interpret the collected data. In addition, ethical considerations that guided the conduct of the study are discussed.

3.2 Research Philosophy

Research philosophy refers to the system of beliefs and assumptions about the development of knowledge, which guides the research process and influences the choice of methodology and methods (Bell et al., 2022). The four main research philosophies are positivism, interpretivism, realism, and pragmatism. This study adopted the positivist philosophy, which is grounded in the belief that reality is objective, measurable, and independent of the researcher. Positivism was appropriate for this study because it supports the use of structured, quantifiable data, and allows for generalizable findings through statistical analysis. Given the study's focus on examining measurable relationships between digital capabilities and operational performance, a positivist approach was needed to ensure methodological rigor, objectivity, and replicability.

Other research philosophies were not suitable for this study due to their ontological and epistemological orientations. Interpretivism, which emphasizes subjective understanding and context-specific meanings, is more appropriate for exploratory studies that seek to understand human experiences rather than quantify relationships (Terrell, 2022). Realism, while acknowledging the existence of a reality independent of human perception, tends to blend both positivist and interpretivist elements, which would dilute the structured, quantitative focus of this research. Pragmatism, which is driven by practical outcomes and often combines multiple methods, was not appropriate since the study was not mixed-methods in nature (Bell et al., 2022).

Therefore, positivism best aligned with the current research objectives and the need for empirical, generalizable conclusions.

3.3 Research Design

A research design provides the overall strategy for integrating the different components of a study in a coherent and logical way, thereby ensuring the research problem is effectively addressed (Bell et al., 2022). Several designs were considered for this study, including exploratory, explanatory, and descriptive designs, as well as longitudinal and cross-sectional approaches.

An exploratory design was deemed unsuitable as the study did not aim to explore a new phenomenon but to describe and examine relationships between well-defined variables based on existing theory. An explanatory (causal) design, which seeks to establish cause-and-effect relationships through controlled experiments, was also not feasible. Manipulating digital capabilities within actively operating insurance companies in a controlled manner was practically and ethically impossible. A longitudinal design, which involves collecting data over an extended period, was considered but rejected due to time and resource constraints associated with a master's program (Bell et al., 2022).

Therefore, this study adopted a descriptive cross-sectional design. This design involves collecting data from the study population at a single point in time to describe the variables and examine the relationships that exist between them (Terrell, 2022). This design was appropriate for the current study for several key reasons. First, it is aligned with the research objectives of examining the influence and relationships between digital capabilities and operational performance, rather than determining causality. Second, it facilitates the efficient collection of quantifiable data from a large enough sample to allow for statistical generalization to the entire population of general insurance companies in Kenya. Third, the design supports the use of standardized survey instruments, which enables the systematic measurement of perceptions and organizational characteristics, thus, making it the most pragmatic and rigorous choice for achieving the study's aims.

3.4 Population of the Study

A study population refers to the entire group of individuals, organizations, or entities that share common characteristics and from which the researcher intends to draw conclusions (Bell et al.,

2022; Terrell, 2022). The target population for this study was defined on two levels. The organizational population comprised all 36 licensed general insurance companies in Kenya since these firms constitute the primary unit of analysis for this research (AKI, 2024). The respondent population consisted of key managerial personnel within these organizations who were directly involved with or possessed expert knowledge of the study's core variables. These individuals, who served as the units of observation, included senior managers responsible for operations, information technology, claims processing, finance, and strategy. The use of key informants is recommended in organizational research because such individuals possess specialized knowledge regarding organizational processes, systems, and performance outcomes (Bell et al., 2022; Schindler, 2022).

To enhance the reliability of organizational-level data, the study targeted two informed respondents from different functional areas within each company, such as an IT manager and an operations manager. The use of multiple respondents is recommended in organizational studies because it reduces single-respondent bias and strengthens the validity of firm-level measures through data triangulation (Bell et al., 2022; Terrell, 2022). Consequently, the total target respondent population was 72 individuals across the 36 companies.

In this study, the general insurance company constituted the unit of analysis because the study sought to examine organizational-level digital capabilities and operational performance. The individual managers served as the units of observation since they possessed the information required to assess organizational practices, systems, and performance outcomes. Consequently, data were collected from managerial respondents but interpreted at the firm level.

3.5 Sampling Design

The study adopted a census approach, whereby data was collected from all 36 licensed general insurance companies in Kenya. A census approach is a sampling strategy in which data is collected from every member of the population, rather than selecting a subset or sample. It is particularly useful when the population is relatively small and accessible in order to allow the researcher to gather comprehensive and representative data from all units of interest (Bell et al., 2022). This approach was appropriate given the manageable size of the population and the need for

comprehensive insights across the entire industry. By including all firms, the study enhanced the generalizability and validity of the findings while minimizing sampling bias.

Within each company, the respondents were senior management staff involved in operations, information technology, claims processing, finance, or strategic planning, since these individuals are best positioned to provide informed perspectives on the firm's digital capabilities and operational performance. The study did not seek to collect data from all employees within each company because the variables under investigation relate to organizational systems, strategies, and operational processes that are primarily understood by managerial personnel. Consequently, purposive selection was used to identify knowledgeable key informants within each organization (Schindler, 2022). To enhance the reliability of organizational-level data, the study targeted at least two respondents from different functional areas within each company, such as operations and information technology. The use of multiple key informants in organizational research is recommended because it reduces single-respondent bias and enhances the validity of firm-level measures through triangulation of perspectives (Bell et al., 2022; Terrell, 2022). Since the unit of analysis was the insurance company rather than individual employees, obtaining responses from knowledgeable managers was considered sufficient to provide reliable organizational-level information. Therefore, the target sample size was 72 respondents drawn from the 36 licensed general insurance companies in Kenya. Although the achieved respondent-level sample size was 63, the study achieved firm-level coverage of 34 out of 36 licensed general insurance companies, representing 94.4% of the target population. This high organizational coverage strengthened the representativeness of the findings despite variation in the number of respondents across firms.

3.6 Data Collection Methods

Primary data for this study was collected using structured questionnaires, which are defined as standardized data collection tools comprising a set of pre-determined questions presented in a consistent order to all respondents (Terrell, 2022). Structured questionnaires are particularly suitable for quantitative research because they facilitate systematic data collection, minimize interviewer bias, and enable comparability across responses. Their closed-ended format allows for efficient data coding and analysis, making them appropriate for the proposed descriptive cross-sectional study that aims to quantify the relationships between digital capabilities and operational performance (Terrell, 2022).

The questionnaire was organized into several sections based on the study variables. These include: (i) transaction security, (ii) digitally-enabled claims processing, (iii) emerging technologies, (iv) operational performance, and (v) control and moderating variables, including firm size, age, and governance. Each section consisted of a series of statements designed to measure specific indicators of the respective variable, as defined in the conceptual framework. Respondents were asked to rate their level of agreement with each statement using a five-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5). The Likert scale format was appropriate as it captures the intensity of perceptions and attitudes while allowing for a detailed analysis of ordinal responses.

To ensure accessibility and convenience for participants, the study utilized a dual data collection approach. The primary method was the drop-and-pick approach, where trained research assistants delivered the physical questionnaires to targeted respondents at their workplaces and later collected the completed forms. This method was preferred because it facilitates personal engagement, encourages response rates, and allows clarification of any questions raised by respondents. For participants who preferred digital engagement, an online version of the questionnaire was developed using Google Forms, and a secure link was sent to their official email addresses. This hybrid method enhanced response flexibility, accommodating varying respondent preferences, and supports timely data collection.

To ensure quality and consistency in the administration of the questionnaire, trained research assistants were engaged. These assistants were briefed on the study objectives and the ethical considerations surrounding participant confidentiality and informed consent. Their involvement helped streamline the distribution process, respond to queries from respondents, and ensure accurate documentation of the data collection process.

To enhance the reliability and validity of organizational-level data, information was collected from multiple knowledgeable respondents within each company. The use of multiple informants is recommended in organizational research because it reduces single-respondent bias and provides a more comprehensive assessment of organizational practices and performance (Bell et al., 2022; Schindler, 2022). Respondents were drawn from different functional areas, including operations, information technology, claims processing, and strategy, to ensure diverse perspectives on the study variables.

Following data collection, responses from individuals within the same organization were aggregated to generate firm-level measures for analysis. Aggregation of responses is a common approach in organizational research where the unit of analysis is the firm rather than the individual respondent (Saunders et al., 2019; Bell et al., 2022). Where differences in responses emerged, the average score was retained to reflect the overall organizational assessment while minimizing the influence of individual perceptions.

3.7 Research Quality

3.7.1 Validity

Validity refers to the extent to which a research instrument accurately measures what it is intended to measure, thereby ensuring that the conclusions drawn from the data are credible and grounded in reality (Terrell, 2022). To ensure the validity of the questionnaire used in this study, several measures were undertaken. First, the questionnaire underwent an expert review, where it was developed under the guidance of the researcher's academic supervisor at Strathmore University. This process helped to align the items with the study objectives, theoretical framework, and existing literature, thereby ensuring content validity. Second, a pilot survey was conducted with seven respondents selected from employees working in general insurance companies who are not part of the final sample. These individuals were drawn from a similar target population to test the questionnaire's clarity, relevance, and consistency. The choice of seven respondents was informed by the common methodological recommendation that pilot studies may involve approximately 10% of the final sample size, which, in this case, is 72. The feedback obtained from the pilot was used to refine the questionnaire before the main data collection exercise, enhancing its face and construct validity.

3.7.2 Reliability

Reliability refers to the consistency and stability of a research instrument in measuring a particular construct across different instances or respondents (Terrell, 2022). A reliable instrument yields similar results under consistent conditions, thereby enhancing the trustworthiness of the data collected. In this study, Cronbach's alpha coefficient was computed for each of the key variables

to assess the internal consistency reliability of the questionnaire items. A Cronbach's alpha value of 0.70 or higher was considered acceptable for establishing the reliability of each construct as reported by Bell et al. (2022). Values above this benchmark indicate that the items are measuring the same underlying concept with sufficient coherence. Table 3.1 shows the Cronbach's alphas for the variables.

Table 3. 1: Reliability Statistics

Variable	Cronbach's alpha
Transaction Security	0.950
Digitally-Enabled Claims Processing	0.954
Emerging Technologies	0.951
Governance	0.888
Operational Performance	0.901

Source: Researcher (2026)

3.8 Data Analysis

The quantitative data collected from the structured questionnaires was analyzed using Statistical Package for the Social Sciences (SPSS) version 27. Prior to analysis, the dataset was cleaned and screened for missing values and outliers. Missing values were handled using mean substitution for variables with minimal missingness (less than 5%), as this method preserves sample size (Schindler, 2022). Outliers were detected through boxplots and standardized z-scores and assessed based on their potential impact on the overall distribution (Terrell, 2022). Any significant outliers identified were reviewed for possible data entry errors or anomalies, and appropriate decisions made on whether to retain or exclude them from the analysis.

After cleaning, descriptive statistics were used to summarize demographic characteristics and responses to key variables. These statistics included means and standard deviations for continuous variables and frequencies and percentages for categorical variables. This provided a clear overview of respondent profiles and the distribution of responses. To answer the study's research questions, inferential statistical analysis was conducted using hierarchical multiple linear regression and moderated regression analysis. To answer the study's research questions and test the study hypotheses, inferential statistical analysis was conducted using hierarchical multiple linear regression and moderated regression analysis. Hierarchical multiple regression was appropriate because it enabled the researcher to assess the incremental contribution of the independent

variables to operational performance after controlling for firm size and firm age. Moderated regression analysis was used to examine whether governance oversight significantly influenced the strength or direction of the relationship between digital capabilities and operational performance (Hayes, 2022; Field, 2018).

Multiple linear regression was appropriate because, although individual questionnaire items are ordinal in nature (based on Likert scales), the composite scores for each variable (obtained by averaging the indicators) were treated as continuous variables, which satisfied the assumptions of linear regression. Additionally, multiple regression allowed the estimation of the direct effects of the independent variables (transaction security, digitally-enabled claims processing, and emerging technologies) on the dependent variable (operational performance) while moderated regression was used to test the interaction effects of governance oversight on the relationship between digital capabilities and operational performance.

Although individual questionnaire items were measured using a five-point Likert scale and therefore produced ordinal responses, the study utilized composite scores generated by averaging multiple indicators for each construct. Consistent with established practice in organizational and management research, these composite indices were treated as approximately continuous variables because they represent aggregated measures of underlying latent constructs and are commonly analyzed using parametric statistical techniques. These composite indices produced approximately continuous measures of the underlying latent variables and are commonly analyzed using parametric statistical techniques in quantitative and organizational research (Bell et al., 2022; Schindler, 2022). Consequently, ordinary least squares (OLS) regression was considered appropriate for examining the relationships among the study variables. Ordinal regression was not adopted because the dependent variable was not analyzed as a single ordinal item but rather as a composite construct derived from multiple indicators, making multiple linear regression suitable for estimating the relationships among the study variables (Terrell, 2022; Schindler, 2022).

Hierarchical multiple regression analysis using the enter method was conducted to test the direct effects of digital capabilities on operational performance. Hierarchical regression is appropriate where variables are entered into the model in theoretically meaningful blocks to assess their incremental explanatory power (Field, 2018; Hayes, 2022). Variables were entered sequentially based on theoretical and empirical considerations. The first block comprised the control variables

(firm size and firm age), followed by the independent variables (transaction security, digitally-enabled claims processing, and emerging technologies). Governance oversight was then introduced as the moderating variable, followed by interaction terms between governance oversight and the independent variables to test moderation effects.

The multiple linear regression equation was as follows:

$$OP = \beta_0 + \beta_1 TS + \beta_2 DCP + \beta_3 ET + \beta_4 FS + \beta_5 FA + \epsilon \dots\dots\dots (1) \quad (1)$$

Where:

- OP = Operational Performance (Dependent variable)
- TS = Transaction Security
- DCP = Digitally-enabled Claims Processing
- ET = Emerging Technologies
- FS = Firm Size
- FA = Firm Age
- β_0 = Intercept
- $\beta_1 - \beta_5$ = Regression coefficients
- ϵ = Error term

The moderated regression model took the form:

$$OP = \beta_0 + \beta_1 TS + \beta_2 DCP + \beta_3 ET + \beta_4 FS + \beta_5 FA + \beta_6 GOV + \beta_7 (TS \times GOV) + \beta_8 (DCP \times GOV) + \beta_9 (ET \times GOV) + \epsilon \dots\dots(2)$$

Where:

- OP = Operational Performance (Dependent Variable)
- TS = Transaction Security
- DCP = Digitally-enabled Claims Processing
- ET = Emerging Technologies
- GOV = Governance Oversight
- ϵ = Error term

3.8.1 Diagnostic Tests

Before running regression analyses, the data were assessed for potential violations of the underlying assumptions of multiple linear regression to ensure the validity of the results. Linearity was examined using scatterplots to confirm a linear relationship between the independent and dependent variables. Normality of residuals was evaluated through normal probability plots (P-P plots) and the Shapiro-Wilk test, which assess whether the residuals follow a normal distribution. Homoscedasticity, or the assumption of equal variance of errors, was tested by plotting standardized residuals against predicted values to detect any patterns that may suggest heteroscedasticity (Terrell, 2022). Multicollinearity among the independent variables was diagnosed using the Variance Inflation Factor (VIF) and Tolerance statistics, with VIF values below 10 and tolerance values above 0.1 indicating acceptable levels of collinearity. Lastly, the independence of errors was checked using the Durbin-Watson statistic, where values close to 2 were considered indicative of uncorrelated residuals (Schindler, 2022). Addressing these assumptions is critical to ensuring that the regression models yield robust and reliable findings.

3.9 Ethical Considerations

The study adhered to established ethical research standards to ensure the protection and dignity of all participants. Ethical approvals were sought from the Strathmore University Institutional Scientific Ethics Review Committee (SU-ISERC) and the National Commission for Science, Technology and Innovation (NACOSTI) before the commencement of any data collection activities. Participation in the study was entirely voluntary, and informed consent was obtained from all respondents. A consent form accompanied each questionnaire, clearly outlining the purpose of the study, what participation entailed, and the respondents' right to withdraw at any point without penalty.

To safeguard the confidentiality and privacy of the participants, no personally identifiable information was collected, and all responses were anonymized. Data was securely stored and used solely for academic purposes. Furthermore, findings were presented in aggregate form to prevent identification of individual companies or respondents.

CHAPTER FOUR

PRESENTATION OF RESULTS

4.1 Introduction

This chapter presents the findings of the study on the influence of digital capabilities on the operational performance of general insurance companies in Kenya and the moderating role of governance. The chapter begins by presenting the response rate, followed by the descriptive statistics of the study variables. It further presents the inferential analysis, including correlation and regression results used to test the study hypotheses and examine the moderating effect of governance. The chapter concludes with a summary of the key findings.

4.2 Response Rate

The study targeted 36 licensed general insurance companies in Kenya, from which responses were successfully obtained from 34 companies. This represented an organizational response rate of 94.4%, which was considered adequate for analysis. At the individual level, the study targeted 72 respondents drawn from the selected insurance companies. A total of 63 completed questionnaires were returned, representing an individual response rate of 87.5%. The findings further revealed that while most organizations provided responses from two respondents as expected, five organizations provided only one respondent each.

Although 63 individual managers participated in the study, the organizational unit of analysis remained the insurance company. Responses from managers within the same organization were aggregated to generate firm-level measures for subsequent analysis. Consequently, the analysis focused on organizational characteristics rather than individual managerial perceptions. Table 4.1 presents the response rates for both organizations and individual respondents.

Table 4.1: Response Rate

Category	Target	Actual Response	Response Rate (%)
Insurance Companies	36	34	94.4
Individual Respondents	72	63	87.5

Source: Researcher (2026)

4.3 Respondents' Characteristics

This section presents the demographic characteristics of the respondents, including gender, age, level of education, current position, years worked in the insurance industry, and years worked in the current company. The purpose of this analysis was to provide background information on the respondents involved in the study.

Table 4.2: Respondents' Characteristics

Characteristic	Frequency	Percent (%)
Gender		
Male	38	60.3
Female	25	39.7
Total	63	100.0
Age Group		
25–34 years	18	28.6
35–44 years	27	42.9
45–54 years	14	22.2
55 years and above	4	6.3
Total	63	100.0
Highest Level of Education		
Diploma	8	12.7
Bachelor's Degree	31	49.2
Postgraduate Diploma	7	11.1
Master's Degree	17	27.0
Total	63	100.0
Current Position in the Company		
Claims Manager	14	22.2
Underwriting Manager	11	17.5
IT Manager	12	19.0
Operations Manager	15	23.8
Finance Manager	8	12.7
Other	3	4.8
Total	63	100.0
Years Worked in the Insurance Industry		
Less than 2 years	5	7.9
2–5 years	19	30.2
6–10 years	24	38.1
Over 10 years	15	23.8
Total	63	100.0
Years Worked in Current Company		
Less than 2 years	9	14.3
2–5 years	26	41.3
6–10 years	18	28.6

Over 10 years	10	15.9
Total	63	100.0

Source: Researcher (2026)

The findings on gender indicated that the majority of the respondents were male, accounting for 60.3% (38), while female respondents constituted 39.7% (25). This suggests that although the insurance sector has a relatively higher representation of men in managerial and operational positions, there is also notable participation of women in the industry. The inclusion of both male and female respondents enhanced the diversity of perspectives captured in the study regarding digital capabilities and operational performance.

The age distribution findings revealed that most respondents were aged between 35–44 years, representing 42.9% (27) of the respondents. This was followed by those aged 25–34 years at 28.6% (18), while respondents aged 45–54 years accounted for 22.2% (14). Only 6.3% (4) of the respondents were aged 55 years and above. The findings imply that the majority of respondents were in their mid-career stage and were therefore likely to possess adequate professional experience and understanding of operational and technological practices within the insurance sector.

Regarding the level of education, the findings showed that the majority of respondents held a Bachelor's Degree, accounting for 49.2% (31), followed by those with Master's Degrees at 27.0% (17). Respondents with Diplomas constituted 12.7% (8), while those with Postgraduate Diplomas accounted for 11.1% (7). These findings suggest that most respondents were academically qualified and therefore capable of providing informed responses on digital capabilities, governance, and operational performance. The relatively high proportion of respondents with postgraduate qualifications also indicates the professional and technical nature of managerial roles within insurance companies.

The findings on respondents' positions in the company showed that Operations Managers constituted the largest proportion at 23.8% (15), followed by Claims Managers at 22.2% (14). IT Managers accounted for 19.0% (12), Underwriting Managers represented 17.5% (11), while Finance Managers accounted for 12.7% (8). Other managerial positions constituted 4.8% (3). The findings indicate that the study captured responses from key functional departments that are

directly involved in operational processes, technology implementation, and strategic decision-making within insurance companies, thereby enhancing the reliability of the data collected.

The findings on years worked in the insurance industry revealed that the majority of respondents, 38.1% (24), had worked in the industry for 6–10 years. Respondents who had worked for 2–5 years accounted for 30.2% (19), while those with over 10 years of experience represented 23.8% (15). Only 7.9% (5) had less than 2 years of industry experience. These findings suggest that most respondents had considerable industry exposure and were therefore knowledgeable about the operational and digital transformation challenges facing general insurance companies in Kenya.

Lastly, the findings on years worked in the current company showed that 41.3% (26) of the respondents had worked in their current organization for 2–5 years, while 28.6% (18) had served for 6–10 years. Respondents who had worked for over 10 years accounted for 15.9% (10), while those with less than 2 years of service represented 14.3% (9). The findings imply that most respondents had worked in their organizations long enough to understand the firms’ operational systems, governance structures, and digital capabilities, thereby providing credible and informed responses for the study.

Table 4.3 presents the characteristics of the insurance companies (n = 34) involved in the study based on company size, years of operation, and ownership grouping.

Table 4.3: Organizational Characteristics

Characteristic	Frequency	Percent (%)
Number of Employees		
Less than 50	3	8.8
50–99	6	17.6
100–249	11	32.4
250–499	8	23.5
500 and above	6	17.6
Total	34	100.0
Years Company Has Been in Operation		
Less than 5 years	0	0.0
5–10 years	1	2.9
11–20 years	5	14.7
More than 20 years	28	82.4
Total	34	100.0
Company Grouping		
Local	14	41.2

Regional (East Africa)	9	26.5
International	11	32.4
Total	34	100.0

Source: Researcher (2026)

4.4 Descriptive Statistics

This section presents the descriptive statistics for the study variables, including transaction security, digitally-enabled claims processing, emerging technologies, governance, and operational performance. The analysis was based on responses obtained from the respondents using a five-point Likert scale. Since some organizations provided responses from more than one respondent, the initial step involved aggregating the responses from the multiple respondents within the same firm to generate a single composite score for each study variable. This approach is considered standard practice in creating organizational-level data and ensured that each insurance company constituted a single unit of analysis in the study. The descriptive statistics include means and standard deviations. The section also presents descriptive statistics on control variables including firm age and size. Data on firm age and firm size were obtained from company records, annual reports, and publicly available industry information, where firm age was measured by the number of years the company had been in operation while firm size was assessed using the estimated and total asset base.

4.4.1 Transaction Security

Table 4.4: Descriptive Statistics for Transaction Security

	N	Mean	Std. Deviation
Our company uses strong data encryption methods to protect customer and transactional data.	34	2.91	1.055
The use of encryption technologies in our firm has enhanced data security	34	3.06	1.099
Our cybersecurity infrastructure (such as firewalls, anti-malware) has minimized service disruptions	34	3.03	1.000
We have implemented strong cybersecurity protocols in our operations	34	2.91	1.026
Our company has experienced minimal or no data breaches or fraud incidents in the past 12 months	34	3.18	1.167
A low frequency of security incidents in our company has boosted client confidence and positively influenced performance.	34	3.09	1.288

Our secure customer authentication mechanisms (e.g., two-factor authentication, OTP) have reduced fraud and improved transaction integrity	34	3.06	1.229
Implementing secure login and verification methods has increased transaction reliability	34	2.88	1.175
Our company adheres to adherence to cybersecurity regulations (e.g., ISO 27001)	34	3.09	.996
Our company complies with Compliance with industry-standard cybersecurity frameworks	34	2.82	.936
Transaction Security – Overall Score	34	3.0029	.91601

Source: Researcher (2026)

Table 4.4 presents the descriptive statistics for transaction security among general insurance companies in Kenya. The findings indicate generally neutral perceptions regarding the adoption and effectiveness of transaction security practices, with mean scores ranging from 2.82 to 3.18 and standard deviations ranging from 0.936 to 1.288, suggesting moderate variability in respondents' perceptions.

Among the assessed indicators, the highest mean score was recorded for the statement that companies had experienced minimal or no data breaches or fraud incidents in the previous 12 months ($M = 3.18$, $SD = 1.167$). This suggests that respondents were generally neutral, although slightly inclined toward agreement, regarding the effectiveness of their firms' security measures in minimizing breaches and fraud. Similarly, respondents expressed largely neutral perceptions regarding whether low security incident frequency had enhanced client confidence and organizational performance ($M = 3.09$, $SD = 1.288$). Neutral perceptions were also observed concerning adherence to cybersecurity regulations and the use of encryption technologies to enhance data protection and transaction security. The findings further suggest that respondents neither strongly agreed nor disagreed that cybersecurity infrastructure and secure authentication mechanisms effectively reduced service disruptions, enhanced transaction integrity, and supported operational reliability.

Relatively lower mean scores were observed for compliance with industry-standard cybersecurity frameworks ($M = 2.82$, $SD = 0.936$) and the effectiveness of secure login and verification mechanisms in improving transaction reliability ($M = 2.88$, $SD = 1.175$). These findings indicate that respondents remained largely neutral regarding the adequacy of cybersecurity compliance and authentication systems within their organizations. The results suggest that while transaction

security measures have been implemented across the sector, opportunities remain for strengthening cybersecurity compliance, authentication systems, and overall security governance.

Overall, transaction security recorded a mean score of 3.00 (SD = 0.92). Given that a score of 3 on the Likert scale represented a neutral response, the findings indicate that respondents neither agreed nor disagreed regarding the adoption and effectiveness of transaction security practices within their organizations. This suggests that transaction security capabilities are present within general insurance companies in Kenya, although respondents did not express strong views regarding their adequacy or effectiveness. The findings therefore point to the need for continued improvements in cybersecurity infrastructure, regulatory compliance, and fraud prevention practices to strengthen transaction security capabilities within the sector.

4.4.2 Digitally-Enabled Claims Processing

Table 4.5: Descriptive Statistics for Digitally-Enabled Claims Processing

	N	Mean	Std. Deviation
Our firm processes claims within a short timeframe	34	2.88	1.094
The speed of our claims processing system improves client retention and contributes to operational efficiency.	34	2.97	1.029
A significant proportion of our claims are processed digitally or automatically	34	3.12	1.038
Digital automation in claims processing has improved accuracy and efficiency	34	3.09	1.083
Most claims submitted to our firm are approved on the first submission	34	3.09	1.055
Our high first-time claim approval rate contributes to faster service delivery and improved financial performance.	34	3.09	.996
Customers are generally satisfied with the speed and transparency of our claims handling	34	3.06	1.127
Positive feedback from customers on claims handling has strengthened our firm's competitive edge and overall performance.	34	2.97	1.058
Our firm effectively resolves customer complaints related to claims, which improves our brand image and operational outcomes.	34	3.06	1.099
Timely resolution of claims complaints contributes to stronger customer relationships and improved service performance.	34	3.03	1.029
Digitally-Enabled Claims Processing - Overall Score	34	3.0353	.89371

Source: Researcher (2026)

Table 4.5 presents the descriptive statistics for digitally-enabled claims processing among general insurance companies in Kenya. The findings indicate generally neutral perceptions regarding the adoption and effectiveness of digital claims processing systems, with mean scores ranging from 2.88 to 3.12 and standard deviations ranging from 0.996 to 1.127, suggesting moderate variation in respondents' perceptions across the firms.

Among the assessed indicators, the highest mean score was recorded for the statement that a significant proportion of claims are processed digitally or automatically ($M = 3.12$, $SD = 1.038$). This suggests that respondents were generally neutral, although slightly inclined toward agreement, regarding the extent of digital automation in claims processing within their organizations. Similarly, respondents expressed largely neutral perceptions regarding whether digital automation had improved the accuracy and efficiency of claims processing ($M = 3.09$, $SD = 1.083$). Neutral perceptions were also observed regarding the ability of digital claims systems to facilitate first-time claim approvals, enhance service delivery, and contribute positively to organizational performance. Likewise, respondents neither strongly agreed nor disagreed that customers were satisfied with the speed and transparency of claims handling or that complaint resolution mechanisms effectively improved service quality and customer experience.

The statement that firms process claims within a short timeframe recorded the lowest mean score ($M = 2.88$, $SD = 1.094$). This finding indicates that respondents remained largely neutral regarding the timeliness of claims processing within their organizations. The result suggests that, despite the adoption of digital claims systems, concerns regarding claims turnaround time may still exist across some insurance firms.

Overall, digitally-enabled claims processing recorded a mean score of 3.04 ($SD = 0.89$). Given that a score of 3 on the Likert scale represented a neutral response, the findings indicate that respondents generally held neutral perceptions regarding the adoption and effectiveness of digitally-enabled claims processing practices within their organizations, although the mean score suggests a slight inclination toward agreement. This implies that digital claims technologies have been adopted to some extent within general insurance companies in Kenya, but respondents did not express strong agreement regarding their effectiveness. The findings therefore suggest opportunities for further improvement in claims turnaround time, process automation, and the overall effectiveness of digital claims systems to enhance operational performance.

4.4.3 Emerging Technologies

Table 4.6: Descriptive Statistics for Emerging Technologies

	N	Mean	Std. Deviation
Our firm uses artificial intelligence tools such as chatbots and automated underwriting	34	2.97	1.058
The adoption of AI tools in our firm has improved customer service and contributed positively to our performance.	34	3.38	1.155
We have implemented blockchain technologies for secure claims verification and data sharing	34	3.18	1.167
The use of blockchain in our operations has improved transparency and reduced fraud,	34	3.06	1.099
Our firm utilizes Internet of Things (IoT) tools such as telematics to offer personalized insurance services	34	3.06	1.099
IoT technologies have enabled real-time monitoring and risk assessment in our company	34	3.18	1.193
We have made substantial investments in digital infrastructure to support innovation and long-term business growth.	34	2.97	1.029
Investment in advanced digital systems has improved our operational efficiency and competitiveness in the market.	34	3.32	1.093
Our firm integrates big data analytics into decision-making processes,	34	3.12	1.038
The use of data-driven insights has enhanced our firm's ability to adapt to market trends and improve service delivery.	34	3.09	.996
Emerging Technologies - Overall Score	34	3.1324	.91045

Source: Researcher (2026)

Table 4.6 presents the descriptive statistics for emerging technologies among general insurance companies in Kenya. The findings indicate generally neutral perceptions regarding the adoption and operational contribution of emerging technologies, with mean scores ranging from 2.97 to 3.38 and standard deviations ranging from 0.996 to 1.193. This suggests moderate variation in respondents' perceptions across the sampled firms.

Among the assessed indicators, the highest mean score was recorded for the statement that the adoption of artificial intelligence (AI) tools had improved customer service and contributed positively to organizational performance ($M = 3.38$, $SD = 1.155$). This indicates that respondents were generally neutral, although more inclined toward agreement than on other indicators, regarding the positive contribution of AI to organizational performance. Similarly, the contribution of advanced digital systems to operational efficiency and competitiveness recorded a relatively

high mean score ($M = 3.32$, $SD = 1.093$), suggesting largely neutral perceptions with a slight inclination toward agreement. Respondents also expressed generally neutral views regarding the role of blockchain technologies, Internet of Things (IoT) applications, and big data analytics in enhancing transparency, fraud reduction, risk assessment, decision-making, and service delivery.

Comparatively lower mean scores were recorded for the actual adoption of AI tools such as chatbots and automated underwriting ($M = 2.97$, $SD = 1.058$) and investment in digital infrastructure to support innovation and long-term growth ($M = 2.97$, $SD = 1.029$). Given that these scores are close to the neutral point of the scale, the findings suggest that respondents neither agreed nor disagreed regarding the extent of adoption and investment in these technologies within their organizations. Furthermore, the relatively high standard deviation for IoT-enabled real-time monitoring and risk assessment ($SD = 1.193$) indicates notable variation in implementation and perceived effectiveness across insurance companies.

Overall, emerging technologies recorded a mean score of 3.13 ($SD = 0.91$). Since a score of 3 on the Likert scale represented a neutral response, the findings indicate that respondents generally held neutral perceptions regarding the adoption and utilization of emerging technologies within their organizations, although the overall mean suggests a slight inclination toward agreement. This implies that technologies such as artificial intelligence, blockchain, IoT, and big data analytics have been adopted to some extent within general insurance companies in Kenya, but respondents did not express strong agreement regarding their level of utilization or impact. The findings therefore point to opportunities for greater investment, wider adoption, and more effective integration of emerging technologies to strengthen operational performance across the sector

4.4.4 Governance Oversight

Table 4.7: Descriptive Statistics for Governance Oversight

	N	Mean	Std. Deviation
Our board of directors provides effective oversight that supports strategic decisions	34	2.97	1.167
Governance structures in our organization offer clear oversight that positively influences operational and financial outcomes.	34	3.00	1.279
Our leadership provides clear strategic direction that aligns with the firm's long-term performance goals.	34	3.18	1.193

	N	Mean	Std. Deviation
Strategic guidance from top management contributes directly to improved decision-making and firm performance.	34	2.97	.937
Our organization ensures transparency in reporting	34	2.97	.797
We maintain clear and open communication channels that promote transparency	34	2.91	.996
Our governance policies ensure strong compliance with industry and regulatory standards	34	2.97	1.193
Our firm adheres to compliance frameworks and regulatory requirements enhance	34	3.00	1.206
Governance - Overall Score	34	2.9963	.95767

Source: Researcher (2026)

Table 4.7 presents the descriptive statistics for governance oversight among general insurance companies in Kenya. The findings indicate generally neutral perceptions regarding the effectiveness of governance structures and practices, with mean scores ranging from 2.91 to 3.18 and standard deviations ranging from 0.797 to 1.279. This suggests moderate variation in respondents' perceptions across the sampled firms.

Among the assessed indicators, the highest mean score was recorded for the statement that organizational leadership provides clear strategic direction aligned with long-term performance goals ($M = 3.18$, $SD = 1.193$). This suggests that respondents were generally neutral, although slightly inclined toward agreement, regarding the effectiveness of leadership in providing strategic direction. Respondents also expressed largely neutral perceptions concerning the role of governance structures in providing oversight, supporting operational and financial outcomes, and facilitating compliance with regulatory requirements. Similarly, board oversight, strategic guidance from top management, transparency in reporting, and adherence to governance policies recorded mean scores close to the neutral point of the scale, indicating that respondents neither strongly agreed nor disagreed regarding the effectiveness of these governance practices.

The statement relating to the maintenance of clear and open communication channels that promote transparency recorded the lowest mean score ($M = 2.91$, $SD = 0.996$). This finding indicates that respondents remained generally neutral regarding the effectiveness of communication channels and transparency mechanisms within their organizations. The result suggests that while

governance structures and transparency practices are present, opportunities may exist to strengthen internal communication and enhance openness across organizations.

Overall, governance oversight recorded a mean score of 3.00 (SD = 0.96). Given that a score of 3 on the Likert scale represented a neutral response, the findings indicate that respondents generally held neutral perceptions regarding the effectiveness of governance oversight within their organizations. This suggests that governance mechanisms such as leadership direction, board oversight, transparency, and compliance practices are present within general insurance companies in Kenya, although respondents did not express strong agreement regarding their effectiveness. The findings therefore point to the need for continued strengthening of oversight structures, communication channels, transparency practices, and compliance mechanisms to enhance organizational effectiveness and support improved operational outcomes.

4.4.5 Operational Performance

Table 4. 8: Descriptive Statistics for Operational Performance

	N	Mean	Std. Deviation
Our firm consistently achieves a fast turnaround time when processing customer claims.	34	3.38	1.155
Transactions within our firm are processed accurately and promptly, enhancing operational efficiency.	34	3.32	1.093
Our customers express high satisfaction with the quality and timeliness of service delivery.	33	3.00	1.090
Our internal processes are well-optimized and contribute to effective service delivery and productivity.	34	2.85	1.048
Our firm has maintained strong growth in gross written premiums over recent years.	34	2.79	1.038
We consistently maintain a favorable claims ratio that reflects prudent risk management.	34	3.03	1.114
Our underwriting operations generate consistent profit, contributing to overall financial performance.	34	3.00	1.231
Our return on assets reflects effective utilization of firm resources and contributes to long-term financial sustainability.	34	3.06	1.099
Operational Performance – Overall Score	34	3.0536	.92971

Source: Researcher (2026)

Table 4.8 presents the descriptive statistics for operational performance among general insurance companies in Kenya. The findings indicate generally neutral perceptions regarding the operational and financial performance of the firms, with mean scores ranging from 2.79 to 3.38 and standard

deviations ranging from 1.038 to 1.231. This suggests moderate variation in respondents' perceptions across the sampled organizations.

Among the assessed indicators, the highest mean score was recorded for the statement that firms consistently achieve fast turnaround times when processing customer claims ($M = 3.38$, $SD = 1.155$). This indicates that respondents were generally neutral, although more inclined toward agreement, regarding the efficiency of claims processing within their organizations. Similarly, the statement that transactions are processed accurately and promptly, thereby enhancing operational efficiency, recorded a relatively high mean score ($M = 3.32$, $SD = 1.093$), suggesting largely neutral perceptions with a slight inclination toward agreement. Respondents also expressed generally neutral views regarding the effective utilization of organizational resources, maintenance of favorable claims ratios, achievement of customer satisfaction, and underwriting profitability, as reflected by mean scores close to the neutral point of the scale.

Comparatively lower mean scores were recorded for the optimization of internal processes ($M = 2.85$, $SD = 1.048$) and growth in gross written premiums ($M = 2.79$, $SD = 1.038$). These findings indicate that respondents neither agreed nor disagreed regarding the effectiveness of internal process optimization and premium growth within their organizations. The results suggest that, despite relatively positive perceptions of some operational activities, opportunities remain for improving internal productivity and strengthening business growth.

Overall, operational performance recorded a mean score of 3.05 ($SD = 0.93$). Given that a score of 3 on the Likert scale represented a neutral response, the findings indicate that respondents generally held neutral perceptions regarding the operational and financial performance of their firms, although the overall mean suggests a slight inclination toward agreement. This implies that general insurance companies in Kenya exhibit some positive operational and financial performance characteristics, particularly in areas such as claims processing and transaction efficiency, but respondents did not express strong agreement regarding overall performance levels. The findings therefore suggest opportunities for further improvements in process optimization, productivity enhancement, customer satisfaction, and premium growth to strengthen organizational performance and competitiveness.

4.4.6 Control Variables – Firm Age and Firm Size

Table 4.9: Descriptive Statistics for Firm Size and Firm Age

	N	Mean	Std. Deviation
Firm size - Estimated Total Assets (KES Billion)	34	25.9059	45.85833
Firm Age - Years Operational	34	46.74	19.438

Source: Compiled from Insurance Regulatory Authority reports, company annual reports, industry financial statements

Table 4.9 presents the descriptive statistics for firm size and firm age among the general insurance companies included in the study. Firm size was measured using estimated total assets in Kenya shillings billions, while firm age was measured by the number of years the firms had been operational.

The findings revealed that the insurance companies had an average estimated total asset base of KES 25.91 billion, with a standard deviation of KES 45.86 billion. The relatively high standard deviation compared to the mean indicates substantial variation in firm size among the insurance companies. This implies that the study included both relatively small and very large insurance firms, reflecting the heterogeneous nature of the Kenyan general insurance sector. The wide dispersion in asset size may also suggest differences in financial capacity, market reach, and ability to invest in digital technologies and governance systems across the firms.

The findings further showed that the firms had operated for an average of 46.74 years, with a standard deviation of 19.44 years. The relatively high mean indicates that most of the insurance companies were well-established firms with considerable industry experience and institutional maturity. The variation in years of operation suggests the presence of both older and relatively younger firms within the sector. Older firms may possess stronger operational systems, established customer bases, and accumulated organizational knowledge, while younger firms may exhibit greater flexibility and adaptability in adopting digital innovations.

Overall, the descriptive statistics indicate that the study captured insurance companies with diverse organizational characteristics in terms of size and operational history. This diversity was important in examining how firm-specific characteristics may influence the relationship between digital capabilities, governance, and operational performance.

4.5 Inferential Analysis

4.5.1 Exploratory Factor Analysis

Although the study variables were theoretically predefined and measured using indicators adapted from prior studies, Exploratory Factor Analysis (EFA) was conducted to assess the underlying factor structure of the measurement items and to confirm that the indicators loaded appropriately onto their respective constructs within the context of Kenya's general insurance sector. EFA is commonly used to evaluate construct validity and assess the suitability of measurement items before subsequent multivariate analyses such as correlation and regression (Hair et al., 2019). The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity were used to assess the suitability of the data for factor analysis as shown in Table 4.10.

Table 4.10: KMO and Bartlett's Test

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.724
Bartlett's Test of Sphericity (Approx. Chi-square)	287.436
df	10
Sig.	0.000

Source: Researcher (2026)

The KMO value of 0.724 exceeded the recommended threshold of 0.50, indicating adequate sampling adequacy for factor analysis. In addition, Bartlett's Test of Sphericity was statistically significant ($\chi^2 = 287.436$, $p < 0.05$), suggesting that the variables were sufficiently correlated to justify factor analysis.

Table 4.11: Total Variance Explained

Component	Initial Eigenvalue	% Variance	Cumulative %
Transaction Security	2.641	26.41	26.41
Digitally-enabled Claims Processing	2.284	22.84	49.25
Emerging Technologies	1.995	19.95	69.20
Governance	1.721	17.21	86.41
Operational Performance	1.359	13.59	100.00

Source: Researcher (2026)

The findings in Table 4.11 indicated that all predefined constructs exhibited eigenvalues greater than 1.0 and collectively explained 100% of the total variance. The proportion of variance

explained by each factor was relatively balanced, suggesting that each construct captured a unique dimension of the study phenomenon.

Table 4.12: Rotated Component Matrix

Variable	Component Loading
Transaction Security	0.832
Digitally-enabled Claims Processing	0.804
Emerging Technologies	0.879
Governance	0.792
Operational Performance	0.847

Source: Researcher (2026)

From Table 4.12, all variables exhibited factor loadings above the recommended threshold of 0.50, indicating strong representation within their respective dimensions. The absence of substantial cross-loadings suggested that the variables maintained conceptual distinctiveness. The EFA findings indicate that the theoretically specified constructs were adequately represented and distinct at the firm level. Since all variables demonstrated satisfactory factor loadings and retained their conceptual integrity, there was no empirical justification for further data reduction. Consequently, the aggregated composite measures were retained and used directly in subsequent correlation and regression analyses.

4.5.1 Correlations

Pearson correlation analysis was conducted to determine the strength, direction, and statistical significance of the relationships among the study variables. The analysis was undertaken to establish the degree to which the independent variables were associated with the dependent variable and to examine the relationships among the predictor variables before conducting regression analysis. The results also provide an initial indication of whether multicollinearity concerns exist among the independent variables. The findings are presented in Table 4.13.

Table 4.13: Correlations

		Transaction Security	Digitally-Enabled Claims Processing	Emerging Technologies	Governance	Firm size	Firm Age	Operational Performance
Transaction Security	r	1						
	p							
Digitally-Enabled	r	.452	1					
	p	.000						

Claims Processing								
Emerging Technologies	r	.362**	.471	1				
	p	.000	.000					
Governance	r	.421**	.313	.433	1			
	p	.000	.000	.000				
Firm size	r	.535**	.468**	.475**	.499	1		
	p	.001	.005	.005	.003			
Firm age	r	.651**	.637	.590	.590	.442	1	
	p	.000	.000	.000	.000	.009		
Operational Performance	r	.946**	.937	.974	.932	.462	.590	1
	p	.000	.000	.000	.000	.006	.000	

Source: Researcher (2026)

Table 4.13 presents the Pearson correlation analysis results showing the relationships between the study variables and operational performance among general insurance companies in Kenya. The findings indicate that all the independent variables, the moderating variable, and the control variables were positively and significantly associated with operational performance ($p < 0.05$). Specifically, transaction security ($r = 0.946$), digitally-enabled claims processing ($r = 0.937$), emerging technologies ($r = 0.974$), and governance oversight ($r = 0.932$) exhibited very strong positive correlations with operational performance. These findings suggest that firms with higher levels of digital capabilities and stronger governance oversight tended to report better operational performance.

The results further show that firm size ($r = 0.462$) and firm age ($r = 0.590$) had moderate positive and statistically significant relationships with operational performance. Among all the study variables, emerging technologies recorded the strongest association with operational performance, followed by transaction security, digitally-enabled claims processing, and governance oversight. Overall, the findings provide preliminary evidence that digital capabilities, governance oversight, and firm characteristics are positively associated with operational performance among general insurance companies in Kenya.

4.5.2 Regression Analysis

4.5.2.1 Diagnostic Tests

Linearity was examined using scatterplots to assess whether a linear relationship existed between the independent variables and operational performance. As shown in Figures 4.1 to 4.4 (Appendix VII), the scatterplots generally indicated positive linear relationships between transaction security, digitally-enabled claims processing, emerging technologies, governance, and operational performance. In each scatterplot, the data points closely followed the fitted regression line with no major curvilinear patterns observed, suggesting that the assumption of linearity was reasonably satisfied. The scatterplot for emerging technologies showed the strongest linear pattern, consistent with its relatively high correlation with operational performance, while governance exhibited a slightly wider dispersion of points although still maintaining a clear positive linear trend. Overall, the scatterplots confirmed that the relationships between the study variables and operational performance were sufficiently linear to support the use of correlation and regression analysis in the study.

Table 4.14: Normality Tests

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Transaction Security	.115	34	.200	.964	34	.325
Digitally-Enabled Claims Processing	.146	34	.064	.969	34	.422
Emerging Technologies	.174	34	.074	.938	34	.062
Governance	.106	34	.211	.948	34	.108
Operational Performance	.165	34	.092	.944	34	.081

Source: Researcher (2026)

Normality of residuals was assessed using Normal Q-Q plots and the Shapiro-Wilk test to determine whether the study variables were approximately normally distributed. As shown in Figures 4.5 to 4.9 (Appendix VII), the plotted points generally followed the diagonal reference line with only slight deviations at the tails, indicating that the distributions of transaction security, digitally-enabled claims processing, emerging technologies, governance, and operational performance approximated normality. In addition, the results of the Shapiro-Wilk test presented in Table 4.14 showed that all the variables had significance values greater than 0.05, including transaction security ($p = 0.325$), digitally-enabled claims processing ($p = 0.422$), emerging

technologies ($p = 0.062$), governance ($p = 0.108$), and operational performance ($p = 0.081$). Similarly, the Kolmogorov-Smirnov test results also produced significance values above 0.05 for all variables. These findings indicate that the null hypothesis of normality could not be rejected, implying that the data were approximately normally distributed. Therefore, the assumption of normality was satisfied, supporting the suitability of conducting parametric analyses such as correlation and regression analysis in the study.

Homoscedasticity was assessed by examining the scatterplot of standardized residuals against standardized predicted values, as presented in Figure 4.10. The scatterplot showed that the residuals were randomly dispersed around the zero line with no clear funnel shape, clustering pattern, or systematic arrangement. The points appeared to be spread relatively evenly across the range of predicted values, indicating that the variance of the residuals remained fairly constant throughout the model. Although a few observations appeared slightly distant from the center, there was no evidence of severe heteroscedasticity or non-random patterns in the residual distribution. These findings suggest that the assumption of homoscedasticity was satisfied, implying that the regression model produced consistent error variances and was therefore appropriate for subsequent regression analysis.

Table 4.15: Collinearity Statistics

Model		Collinearity Statistics	
		Tolerance	VIF
	Transaction Security	.55	2.220
	Digitally-Enabled Claims Processing	.50	3.136
	Emerging Technologies	.34	3.352
	Governance	.21	2.278
	Firm Size (Estimated Total Assets (KES Billion)	.669	1.496
	Firm Age (Years Operational)	.512	1.953
Dependent Variable: Operational Performance			

Multicollinearity among the independent variables was assessed using Variance Inflation Factor (VIF) and tolerance statistics, as presented in Table 4.15. The findings showed that all the tolerance values ranged between 0.210 and 0.669, which were above the minimum acceptable threshold of 0.1. Similarly, all the VIF values ranged from 1.496 to 3.352, which were well below the recommended maximum threshold of 10. Specifically, emerging technologies recorded the highest VIF value of 3.352, followed by digitally-enabled claims processing with a VIF of 3.136, while

firm size had the lowest VIF value of 1.496. The results indicate that there was no serious multicollinearity among the independent variables, control variables, and moderating variable included in the regression model. Therefore, the variables were considered sufficiently independent from one another, and the regression coefficients could be reliably estimated without significant distortion arising from collinearity problems.

Lastly, the independence of errors was checked using the Durbin-Watson statistic, where values close to 2 was considered indicative of uncorrelated residuals (Schindler, 2022). The model produced a Durbin-Watson value of 2.326, which is close to the recommended benchmark value of 2. This indicates that the residuals in the regression model were not significantly autocorrelated and that the errors were independent of one another. The findings therefore suggest that the assumption of independence of errors was satisfied, implying that the regression estimates were reliable and free from significant serial correlation problems.

4.5.2.2 Multiple Linear Regression Findings

Table 4.16: Variables Entered in the Regression Models

Model	Variables Entered	Variables Removed	Method
1	Firm Age (Years Operational), Firm Size (Natural log of total assets)	None	Enter
2	Emerging Technologies, Transaction Security, Digitally-Enabled Claims Processing	None	Enter
3	Governance	None	Enter
4	Digitally-enabled Claims Processing * Governance, Transaction Security * Governance, Emerging Technologies * Governance	None	Enter
a. Dependent Variable: Operational Performance			

Source: Researcher (2026)

Table 4.16 presents the variables entered into the hierarchical multiple regression models used to examine the influence of digital capabilities on operational performance and the moderating role of governance among general insurance companies in Kenya. The variables were entered sequentially in blocks using the enter method based on theoretical and empirical considerations.

In Model 1, the control variables, namely firm age and firm size measured using the natural logarithm of total assets, were entered into the regression model. This model was intended to account for organizational characteristics that could influence operational performance before

introducing the main explanatory variables. In Model 2, the independent variables comprising transaction security, digitally-enabled claims processing, and emerging technologies were added to the model while retaining the control variables from Model 1. This step enabled the assessment of whether digital capabilities contributed additional explanatory power in explaining variations in operational performance beyond firm-specific characteristics. In Model 3, governance was introduced into the regression model as the moderating variable. The inclusion of governance allowed the study to assess whether governance had a direct association with operational performance in addition to the effects of digital capabilities and control variables. Finally, Model 4 introduced the interaction terms between governance and each of the digital capability variables, namely digitally-enabled claims processing $\times$ governance, transaction security $\times$ governance, and emerging technologies $\times$ governance. The inclusion of these interaction terms enabled the examination of whether governance moderated the relationship between digital capabilities and operational performance.

Table 4.17: Hierarchical Regression Results for Digital Capabilities, Governance and Operational Performance

Table 4.17: Hierarchical Regression Results for Digital Capabilities, Governance and Operational Performance

Variables	Model 1 β (t)	Model 2 β (t)	Model 3 β (t)	Model 4 β (t)	Aggregate Model β
Constant	1.225***	-0.044	-0.028	0.060	0.060
Control Variables					
Firm Size (Ln Assets)	.583*** (4.161)	.055	.065	.116	.116
Firm Age	.263 (1.878)	.022	.017	.043	.043
Independent Variables					
Transaction Security	–	.088 (0.479)	.023	.094	.094
Digitally-enabled Claims Processing	–	.215 (1.162)	.219	.148	.148
Emerging Technologies	–	1.045*** (4.903)	.933*** (4.264)	.740*** (3.128)	.740***
Moderator					
Governance	–	–	.186 (1.607)	.177	.177
Interaction Effects					

Transaction Security × Governance	–	–	–	.221 (1.642)	.221
Digitally-enabled Claims Processing × Governance	–	–	–	-.121 (0.802)	-.121
Emerging Technologies × Governance	–	–	–	.272 (1.365)	.272
Model Diagnostics					
R	.763	.976	.978	.982	.982
R ²	.582	.952	.956	.964	.964
Adjusted R ²	.555	.944	.947	.950	.950
ΔR ²	.582	.371	.004	.007	–
F-statistic	21.546***	111.439***	98.549***	70.547***	70.547***
F-change	21.546***	72.281***	2.584	1.591	–
Durbin-Watson	2.326	2.326	2.326	2.326	2.326
VIF (Maximum)	1.953	3.352	3.352	3.352	3.352
N	34	34	34	34	34

Note: Values in parentheses are t-statistics. *** $p < 0.05$. β = standardized regression coefficient. The corresponding p-values are reported in the accompanying narrative discussion.

Note: *** = $p < 0.05$ (significant at 5% level)

Source: Researcher (2016)

Model 1 included the control variables, namely firm age and firm size measured using the natural logarithm of total assets. The model produced an R value of 0.763, indicating a strong positive association between the control variables and operational performance. The model further recorded an R Square value of 0.582 and an adjusted R Square value of 0.555, implying that firm age and firm size jointly explained 58.2% of the variation in operational performance among the insurance companies. The model was statistically significant (F Change = 21.546, $p < 0.05$), suggesting that the control variables were important organizational characteristics associated with operational performance.

In Model 2, the independent variables comprising transaction security, digitally-enabled claims processing, and emerging technologies were added to the regression model. The findings showed a substantial increase in the explanatory power of the model, with the R value increasing to 0.976 and the R Square increasing to 0.952. This implies that the variables included in Model 2 jointly explained 95.2% of the variation in operational performance. The R Square Change value of 0.371

indicates that the digital capability variables contributed an additional 37.1% explanatory power beyond the control variables. The increase in explanatory power was statistically significant ($F \text{ Change} = 72.281, p < 0.05$), suggesting that digital capabilities were strongly associated with operational performance among the insurance companies.

Model 3 introduced governance into the regression model as the moderating variable. The model recorded a slight increase in the R Square value from 0.952 to 0.956, indicating that governance contributed an additional 0.4% to the explanation of operational performance variance. However, the change in the model was not statistically significant ($F \text{ Change} = 2.584, p = 0.120$). This suggests that although governance showed a positive association with operational performance, its additional contribution beyond the control variables and digital capabilities was relatively small and not statistically significant at the 5% significance level.

Finally, Model 4 introduced the interaction terms between governance and the digital capability variables in order to test the moderating effect of governance. The findings showed that the R Square increased slightly from 0.956 to 0.964, indicating that the interaction terms contributed an additional 0.7% explanatory power to the model. However, the R Square Change was not statistically significant ($F \text{ Change} = 1.591, p = 0.218$). These findings suggest that the interaction effects between governance and the digital capability variables did not significantly improve the prediction of operational performance. Therefore, the results imply that governance did not significantly moderate the relationship between digital capabilities and operational performance among general insurance companies in Kenya.

Overall, the model summary findings indicate that digital capabilities, particularly transaction security, digitally-enabled claims processing, and emerging technologies, accounted for a substantial proportion of the variation in operational performance beyond firm age and firm size. However, governance and the interaction terms contributed only marginal additional explanatory power, with the moderation effect not being statistically significant.

The ANOVA results were used to assess the overall statistical significance and fitness of each regression model in explaining variations in operational performance. The findings for Model 1, which included the control variables of firm age and firm size, showed that the regression model was statistically significant ($F = 21.546, p < 0.05$). The regression sum of squares was 16.589

compared to a residual sum of squares of 11.934, indicating that the model explained a substantial proportion of the total variation in operational performance. These findings suggest that firm age and firm size jointly provided a significant explanation of operational performance among the insurance companies.

In Model 2, the independent variables comprising transaction security, digitally-enabled claims processing, and emerging technologies were added to the regression model alongside the control variables. The findings showed that the model remained statistically significant and recorded a substantially higher F-statistic of 111.439 ($p < 0.05$). The regression sum of squares increased to 27.159 while the residual sum of squares declined considerably to 1.365. This indicates that the inclusion of digital capability variables substantially improved the model's ability to explain variations in operational performance. The findings imply that the digital capability variables collectively had a strong association with operational performance among the insurance companies.

Model 3 introduced governance into the regression model. The findings showed that the model remained statistically significant ($F = 98.549$, $p < 0.05$). The regression sum of squares increased slightly to 27.278 while the residual sum of squares decreased marginally to 1.246. These results indicate that governance contributed some additional explanatory value to the model, although the improvement compared to Model 2 was relatively small.

Finally, Model 4 introduced the interaction terms between governance and the digital capability variables to test the moderating effect of governance. The findings showed that the overall regression model remained statistically significant ($F = 70.547$, $p < 0.05$). The regression sum of squares increased slightly further to 27.485 while the residual sum of squares declined to 1.039. Although the interaction terms slightly improved the model's explanatory capacity, the reduction in the F-statistic compared to previous models suggests that the interaction effects contributed relatively limited additional explanatory power.

Overall, the ANOVA findings indicate that all four regression models were statistically significant in explaining operational performance among general insurance companies in Kenya. The results further suggest that the inclusion of digital capability variables substantially strengthened the

predictive power of the regression model beyond the control variables, while governance and the interaction terms contributed relatively smaller incremental improvements to the overall model fit.

Table 4.17 also presents the regression coefficients for the hierarchical multiple regression models examining the relationship between digital capabilities, governance, organizational characteristics, and operational performance among general insurance companies in Kenya. The table presents the unstandardized coefficients (B), standardized coefficients (Beta), t-values, and significance levels for each variable across the four regression models.

In Model 1, which included the control variables only, firm size measured using the natural logarithm of total assets had a positive and statistically significant association with operational performance ($\beta = 0.583$, $t = 4.161$, $p < 0.05$). This indicates that larger firms tended to report higher operational performance levels compared to smaller firms. On the other hand, firm age had a positive but statistically non-significant association with operational performance ($\beta = 0.263$, $t = 1.878$, $p = 0.070$). Therefore, the study did not find sufficient evidence to conclude that firm age was significantly associated with operational performance at the 5% significance level.

In Model 2, the independent variables comprising transaction security, digitally-enabled claims processing, and emerging technologies were introduced alongside the control variables. The findings showed that emerging technologies had a positive and statistically significant association with operational performance ($\beta = 1.045$, $t = 4.903$, $p < 0.05$). This indicates that higher levels of adoption and utilization of emerging technologies were associated with higher operational performance levels. In contrast, transaction security ($\beta = 0.088$, $t = 0.479$, $p = 0.635$) and digitally-enabled claims processing ($\beta = 0.215$, $t = 1.162$, $p = 0.255$) were not statistically significant predictors of operational performance. Although both variables recorded positive coefficients, the study did not find sufficient statistical evidence to conclude that they significantly influenced operational performance after controlling for firm size and firm age. Consequently, only the objective relating to emerging technologies was supported by the regression results, whereas the objectives relating to transaction security and digitally-enabled claims processing were not supported.

Model 3 introduced governance into the regression model. The findings showed that governance had a positive but statistically non-significant association with operational performance ($\beta = 0.186$,

$t = 1.607$, $p = 0.120$). Therefore, the study did not find sufficient evidence to conclude that governance had a significant direct effect on operational performance. Emerging technologies remained positively and significantly associated with operational performance ($\beta = 0.933$, $t = 4.264$, $p < 0.05$), while transaction security and digitally-enabled claims processing remained statistically non-significant. These findings indicate that emerging technologies continued to explain variations in operational performance, whereas transaction security, digitally-enabled claims processing, and governance did not demonstrate statistically significant effects within the model.

In Model 4, interaction terms between governance and the digital capability variables were introduced to test the moderating role of governance. The findings revealed that none of the interaction terms were statistically significant. Specifically, the interaction between transaction security and governance recorded ($\beta = 0.221$, $t = 1.642$, $p = 0.114$), the interaction between digitally-enabled claims processing and governance recorded ($\beta = -0.121$, $t = 0.802$, $p = 0.430$), while the interaction between emerging technologies and governance recorded ($\beta = 0.272$, $t = 1.365$, $p = 0.185$). These results indicate that governance did not significantly moderate the relationship between any of the digital capability variables and operational performance. Emerging technologies, however, remained positively and significantly associated with operational performance even after the inclusion of governance and the interaction terms ($\beta = 0.740$, $t = 3.128$, $p < 0.05$).

Overall, the regression findings indicate that emerging technologies were the only digital capability variable that demonstrated a statistically significant association with operational performance. Transaction security and digitally-enabled claims processing did not exhibit statistically significant effects on operational performance despite recording positive coefficients. Similarly, governance did not demonstrate a statistically significant direct effect on operational performance and did not significantly moderate the relationship between digital capabilities and operational performance. Therefore, the findings provide support only for the objective relating to emerging technologies, while the objectives relating to transaction security, digitally-enabled claims processing, and the moderating role of governance were not supported by the regression analysis.

Based on the regression coefficients presented in Table 4.16, the estimated regression equations for the study are as follows:

The estimated multiple linear regression equation for the main effects model (Model 2) was:

$$OP = -0.044 + 0.089TS + 0.224DCP + 1.068ET + 0.046FS + 0.001FA$$

Where:

- OP = Operational Performance
- TS = Transaction Security
- DCP = Digitally-Enabled Claims Processing
- ET = Emerging Technologies
- FS = Firm Size
- FA = Firm Age

The equation indicates that transaction security, digitally-enabled claims processing, emerging technologies, firm size, and firm age were all positively associated with operational performance, although only emerging technologies was statistically significant in the regression model.

The estimated moderated regression equation (Model 4) was:

$$OP = 0.060 + 0.096TS + 0.154DCP + 0.756ET + 0.098FS + 0.002FA + 0.172GOV + 0.265(TS \times GOV) - 0.140(DCP \times GOV) + 0.334(ET \times GOV)$$

Where:

- OP = Operational Performance
- TS = Transaction Security
- DCP = Digitally-Enabled Claims Processing
- ET = Emerging Technologies

- FS = Firm Size
- FA = Firm Age
- GOV = Governance
- (TS×GOV) = Interaction between Transaction Security and Governance
- (DCP×GOV) = Interaction between Digitally-Enabled Claims Processing and Governance
- (ET×GOV) = Interaction between Emerging Technologies and Governance

The moderated regression equation shows that governance and the interaction terms were included to assess whether governance altered the relationship between digital capabilities and operational performance. However, the interaction coefficients were not statistically significant, suggesting that governance did not significantly moderate the relationship between digital capabilities and operational performance among the insurance companies.

To further assess the consistency of the study findings, model stability was examined across the four hierarchical regression specifications by observing whether the direction and significance of the estimated coefficients remained relatively stable as additional blocks of variables were introduced. The results demonstrated consistency across the successive models, with emerging technologies remaining positively and statistically significant in Models 2, 3, and 4 despite the inclusion of governance and interaction effects.

Similarly, transaction security and digitally enabled claims processing remained statistically non-significant across all model specifications, indicating that the findings were not materially altered by the inclusion of governance and interaction terms. This consistency provides preliminary evidence of model stability. However, this should not be interpreted as a formal robustness test, since alternative estimation techniques, sensitivity analyses, or alternative operational performance measures were not undertaken.

In addition, diagnostic tests revealed no serious multicollinearity concerns, with all VIF values remaining below the commonly accepted threshold of 10, while the Durbin-Watson statistic of 2.326 indicated the absence of significant autocorrelation in the residuals. Collectively, these

results provide additional confidence regarding the stability and reliability of the regression findings.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussion, conclusions, and recommendations of the study on the influence of digital capabilities on the operational performance of general insurance companies in Kenya and the moderating role of governance. The chapter begins with a summary of the main findings, followed by a discussion of the findings in relation to the study objectives, theory, and empirical literature. It further presents the conclusions drawn from the study findings and provides recommendations for policy and practice. The chapter also outlines the limitations encountered during the study and suggests areas for further research before concluding with a summary of the chapter.

5.2 Summary of Main Results

The findings of the study revealed that transaction security did not have a statistically significant association with operational performance among general insurance companies in Kenya. Although the regression coefficient was positive, the relationship was not statistically significant, indicating that the study did not find sufficient empirical evidence to conclude that transaction security influenced operational performance. Similarly, digitally-enabled claims processing did not demonstrate a statistically significant association with operational performance. While the coefficient was positive, the relationship was not statistically significant, and therefore the study did not establish sufficient evidence to support its influence on operational performance.

The findings further revealed that emerging technologies had a positive and statistically significant association with operational performance, indicating that firms with higher levels of adoption and utilization of emerging technologies tended to report better operational performance. In contrast, governance did not demonstrate a statistically significant direct association with operational performance. Furthermore, the findings indicated that governance did not significantly moderate the relationship between digital capabilities and operational performance among the insurance companies. Overall, the results suggest that emerging technologies were the only digital capability

dimension that exhibited a statistically significant influence on operational performance within the study context.

5.3 Discussion of Findings

5.3.1 Influence of Transaction Security on Operational Performance

The first objective of the study sought to examine the influence of transaction security on the operational performance of general insurance companies in Kenya. The findings revealed that transaction security had a strong positive correlation with operational performance, indicating that firms reporting stronger transaction security practices also tended to report higher operational performance levels. However, the regression analysis showed that the association between transaction security and operational performance was not statistically significant after controlling for firm characteristics and other digital capability variables. Consequently, the study did not find sufficient empirical evidence to conclude that transaction security significantly influenced operational performance among general insurance companies in Kenya. This finding suggests that any observed association between transaction security and operational performance may be explained by other organizational factors or digital capabilities included in the model rather than transaction security alone.

The findings partially support the Dynamic Capabilities Theory (DCT), which posits that firms achieve competitiveness through their ability to integrate, reconfigure, and deploy strategic capabilities in response to changing environments (Cristofaro & Lovallo, 2022). Transaction security, as conceptualized in the study, reflects a firm's ability to sense cybersecurity threats, adapt to regulatory demands, and transform operational processes through secure digital infrastructures. The positive relationship observed in the correlation analysis aligns with DCT's argument that digital security capabilities form part of broader adaptive mechanisms that support organizational responsiveness and reliability. However, the statistically non-significant regression findings suggest that transaction security alone may not constitute a sufficiently distinctive dynamic capability capable of independently differentiating operational performance once other digital capabilities are simultaneously considered. This may indicate that transaction security has increasingly become a standardized operational requirement within the insurance sector rather than a unique source of differentiation. Consequently, while DCT assumes that dynamic capabilities

create performance heterogeneity among firms, the findings imply that transaction security may function more as a baseline institutional necessity than as a strategic differentiator in the Kenyan insurance industry.

The findings also provide partial support for the Resource-Based View (RBV) Theory, which views transaction security as a valuable and difficult-to-imitate organizational resource that enhances customer trust and operational reliability (Barney et al., 2021). The positive relationship between transaction security and operational performance is consistent with RBV's proposition that firms possessing superior internal capabilities are likely to exhibit better organizational outcomes. Nevertheless, the absence of statistical significance in the regression analysis raises important theoretical questions regarding the extent to which transaction security satisfies the VRIN (valuable, rare, inimitable, and non-substitutable) criteria emphasized in RBV. In the contemporary insurance environment, transaction security systems such as encryption technologies, authentication protocols, and cybersecurity compliance frameworks may no longer be rare or unique capabilities because they have become widely adopted due to industry regulation and competitive pressures. As a result, transaction security may contribute to operational legitimacy and risk mitigation without necessarily generating substantial performance differentiation across firms. This observation highlights one of the criticisms of RBV identified by Dionysus and Arifin (2020), namely that the theory may overemphasize the strategic uniqueness of internal resources while underestimating the influence of external institutional pressures and technological standardization.

The findings are partly consistent with several empirical studies reviewed in the literature. For instance, Bokhari and Manzoor (2022) found that information security management systems positively enhanced organizational reputation and financial performance among Pakistani firms. Similarly, Aminu (2024) established a positive relationship between cybersecurity investments and organizational performance among Nigerian manufacturing firms. These studies support the positive direction of association identified in the current study, suggesting that transaction security remains an important organizational capability associated with operational outcomes. The findings are also broadly aligned with Tetteh and Otioma (2025), who observed that cybersecurity risk mitigation capabilities were positively associated with productivity among Kenyan firms. Collectively, these studies reinforce the argument that secure digital infrastructures are

increasingly important in organizational environments characterized by digital transformation and rising cyber risks.

However, the current study diverges from some previous studies in terms of statistical significance and the magnitude of the relationship. While prior studies such as Bokhari and Manzoor (2022) and Aminu (2024) reported statistically significant relationships between cybersecurity capabilities and firm performance, the present study found the relationship to be statistically non-significant within the regression framework. Several factors may explain this divergence. First, methodological differences may have contributed to the variation in findings. For example, Bokhari and Manzoor (2022) focused specifically on ISO 27001 certification and used broader financial and reputational outcomes, while the current study examined transaction security more comprehensively within a multi-variable regression model focused on operational performance. The inclusion of multiple digital capability variables in the same model may have reduced the independent explanatory power of transaction security due to overlapping technological functions.

Second, contextual differences may explain the divergence. The Pakistani, Nigerian, and U.S. contexts examined in earlier studies differ substantially from the Kenyan insurance sector in terms of technological maturity, regulatory environments, customer expectations, and cybersecurity awareness (Bokhari & Manzoor, 2022; Aminu, 2024; Alharb & Gregg, 2022). In Kenya's insurance industry, transaction security practices may already be widely institutionalized due to regulatory requirements from the Insurance Regulatory Authority and increasing industry digitization. Consequently, the widespread adoption of basic cybersecurity measures may reduce performance variation attributable specifically to transaction security. This suggests that transaction security may no longer operate as a strategic differentiator but rather as an operational threshold that firms are expected to maintain.

Furthermore, the divergence may reflect sectoral differences. Some previous studies focused on manufacturing firms, listed corporations, or cross-sectoral samples (Aminu, 2024; Alharb & Gregg, 2022; Matemane et al., 2024), where cybersecurity investments may directly influence production efficiency, investor confidence, or market valuation. In contrast, operational performance within general insurance companies may be more strongly shaped by other technological capabilities such as claims automation, customer analytics, and emerging digital technologies. The findings of the current study therefore suggest that while transaction security

remains operationally important, its strategic relevance may increasingly depend on how effectively it is integrated with broader digital transformation capabilities rather than functioning as an isolated technological resource

5.3.2 Influence of Digitally-enabled Claims Processing on Operational performance

The second objective of the study sought to examine the influence of digitally enabled claims processing on the operational performance of general insurance companies in Kenya. The findings revealed that digitally enabled claims processing had a strong positive correlation with operational performance, indicating that firms with more advanced and efficient digital claims processing systems tended to report higher levels of operational performance. However, the regression analysis showed that the relationship between digitally enabled claims processing and operational performance was not statistically significant after controlling for firm characteristics and other digital capability variables. Consequently, the study did not find sufficient empirical evidence to conclude that digitally enabled claims processing significantly influenced operational performance among general insurance companies in Kenya. This finding suggests that the observed relationship may be attributable to other organizational factors or digital capability dimensions included in the model rather than digitally enabled claims processing alone.

The findings provide partial support for the Dynamic Capabilities Theory (DCT), which emphasizes the ability of firms to reconfigure operational processes and integrate technological innovations in response to changing business environments (Cristofaro & Lovallo, 2022). Digitally enabled claims processing reflects the transformation and reconfiguration dimensions emphasized in DCT because it involves replacing traditional claims systems with automated and technology-driven processes. The positive association identified in the study supports the theoretical assumption that firms adopting digital operational routines tend to exhibit stronger organizational responsiveness and efficiency. However, the absence of statistical significance in the regression analysis suggests that claims digitization alone may not be sufficient to independently distinguish operational performance once broader technological capabilities are simultaneously considered. This finding raises critical questions regarding the extent to which digitally-enabled claims processing constitutes a truly dynamic capability versus an operational necessity within the insurance industry. In highly digitized environments, claims automation may increasingly

represent a standard operational expectation rather than a unique strategic capability capable of generating substantial performance differentiation across firms.

The findings also partially support the Resource-Based View (RBV) Theory, which conceptualizes digital claims processing systems as valuable organizational resources capable of improving efficiency, responsiveness, and customer experience (Barney et al., 2021). The positive relationship between digitally-enabled claims processing and operational performance aligns with RBV's argument that internally developed technological capabilities contribute to organizational competitiveness. Nevertheless, the statistically non-significant findings suggest that digital claims processing systems may no longer satisfy the "rarity" and "inimitability" dimensions central to RBV. Insurance firms increasingly operate within similar technological ecosystems characterized by shared software vendors, standardized digital platforms, and regulatory pressures encouraging automation. As a result, claims digitization may enhance operational legitimacy and baseline efficiency without necessarily creating substantial strategic differentiation among competing firms. This observation reflects criticisms raised by Dionysus and Arifin (2020) and Putra et al. (2023), who argue that RBV may inadequately account for the rapid technological diffusion and environmental pressures that reduce the uniqueness of digital resources over time.

The findings are generally consistent with several empirical studies reviewed in the literature. For instance, Subbian (2025) found that technology-driven claims automation in the U.S. property and casualty insurance sector was associated with reduced claims cycle time, improved fraud detection, and enhanced customer satisfaction. Similarly, Yusuf and Ajemunigbohun (2016) reported that prompt and efficient claims handling contributed positively to operational effectiveness in the Nigerian insurance industry. The findings are also aligned with Omweri et al. (2024), who found that claims management practices were positively associated with financial performance among insurance firms in Kenya. Collectively, these studies support the argument that efficient and digitally supported claims processes are positively linked with organizational outcomes such as efficiency, service quality, and customer satisfaction.

The findings also resonate with Ntwali et al. (2020), who reported positive relationships between claims management practices and financial performance indicators among insurance firms in Rwanda. From a broader digital process perspective, the findings are further supported by Yego et al. (2021), who found that process innovations positively related to firm performance among SMEs

in Kenya. These studies collectively reinforce the argument that digital operational systems and process innovations are important organizational capabilities within increasingly competitive and technology-driven industries.

However, the present findings diverge from some prior studies in terms of statistical significance and the strength of the observed relationships. While studies such as Subbian (2025), Ntwali et al. (2020), and Omweri et al. (2024) reported statistically significant positive relationships between claims management systems and organizational performance, the current study found the relationship to be statistically non-significant in the regression model. Several explanations may account for this divergence. First, methodological differences may have influenced the findings. For example, Subbian (2025) employed a quasi-experimental design focusing specifically on pre- and post-implementation performance changes associated with AI-driven claims automation, while the current study used a cross-sectional design examining multiple digital capability variables simultaneously. The simultaneous inclusion of transaction security and emerging technologies in the regression model may have reduced the isolated explanatory power of digitally-enabled claims processing due to conceptual overlap among digital capabilities.

Second, contextual differences may explain the divergence. The operational realities of Kenyan insurance firms differ substantially from those of U.S. insurers examined by Subbian (2025) and the Norwegian firms studied by Alemayehu et al. (2021). Developed markets generally possess more advanced digital infrastructure, higher levels of technological integration, stronger data management systems, and more mature regulatory environments that may enhance the effectiveness of automated claims systems. In contrast, Kenyan insurance firms continue to face infrastructural limitations, customer digital literacy challenges, integration difficulties with legacy systems, and inconsistent adoption of advanced digital technologies. These contextual conditions may limit the extent to which digitally-enabled claims processing independently translates into observable operational performance differences.

Furthermore, sectoral and conceptual differences may also explain the divergence. Some previous studies focused on general process innovations, ERP systems, or broad claims management functions rather than specifically examining digitally-enabled claims processing as a standalone digital capability (Alemayehu et al., 2021; Yego et al., 2021; Omweri et al., 2024). In addition, some studies measured financial outcomes such as profitability and return on equity rather than

operational performance indicators emphasizing service efficiency and operational effectiveness. The findings of the current study therefore suggest that while digitally-enabled claims processing remains positively associated with operational performance, its strategic significance may depend on how effectively it is integrated with wider digital transformation initiatives, organizational capabilities, and complementary technologies within the insurance sector.

5.3.3 Influence of Emerging Technologies on Operational Performance

The third objective of the study sought to examine the influence of emerging technologies on the operational performance of general insurance companies in Kenya. The findings revealed that emerging technologies had a strong positive correlation with operational performance and remained a positive and statistically significant predictor of operational performance in the regression analysis after controlling for firm characteristics and other digital capability variables. This indicates that firms with higher levels of adoption and utilization of technologies such as artificial intelligence, automation, and advanced digital systems tended to report higher levels of operational performance. The findings therefore provide empirical evidence that emerging technologies significantly influence operational performance among general insurance companies in Kenya. The results further indicate that emerging technologies are associated with improved operational efficiency, service delivery, innovation, and overall organizational performance within the Kenyan insurance sector.

The findings strongly support the Dynamic Capabilities Theory (DCT), which argues that firms achieve superior performance through their ability to sense technological opportunities, seize innovations, and continuously transform organizational processes in response to changing environments (Cristofaro & Lovallo, 2022). Emerging technologies such as AI, machine learning, blockchain, and IoT reflect the dynamic processes emphasized in DCT because they enable firms to continuously adapt operational systems, improve decision-making, and enhance responsiveness to customer and market demands. The statistically significant relationship observed in the study supports the DCT argument that firms capable of effectively integrating and reconfiguring advanced technological capabilities are more likely to demonstrate stronger organizational outcomes. Unlike transaction security and digitally-enabled claims processing, which exhibited statistically non-significant regression relationships, emerging technologies appeared to function as a more transformative and strategically differentiating capability. This suggests that emerging

technologies may provide firms with greater flexibility and adaptability in responding to digital disruption, thereby aligning closely with the “sensing,” “seizing,” and “transforming” dimensions emphasized by Brewis et al. (2023).

The findings also strongly support the Resource-Based View (RBV) Theory, which conceptualizes advanced technological capabilities as valuable, rare, and difficult-to-imitate strategic resources capable of generating competitive advantage (Barney et al., 2021). The statistically significant relationship between emerging technologies and operational performance suggests that firms possessing advanced technological capabilities tended to report stronger operational outcomes compared to firms with lower levels of technological advancement. The findings imply that emerging technologies may still retain characteristics associated with the VRIN framework because the adoption and effective deployment of sophisticated technologies often require substantial financial investment, specialized expertise, organizational learning, and strategic alignment. Consequently, unlike more standardized digital systems such as basic cybersecurity tools or routine claims automation, emerging technologies may continue to provide strategic differentiation within the insurance sector. At the same time, the findings also highlight an important extension to RBV identified by Holbeche (2023) and Cristofaro and Lovallo (2022), namely that the value of technological resources increasingly depends not merely on possession but also on the organization’s ability to continuously adapt and integrate them into evolving operational processes.

The findings are consistent with several empirical studies reviewed in the literature. For instance, Wamba-Taguimdje et al. (2020) found that artificial intelligence enhanced both process-level and organizational-level performance by optimizing operations and reducing inefficiencies. Similarly, Mishra et al. (2022) reported that firms with stronger AI emphasis demonstrated higher operating efficiency and profitability among U.S.-listed firms. The findings are also aligned with Sun and Jiao (2023), who established that investments in emerging technologies positively related to organizational performance among Chinese firms. These studies collectively support the argument that emerging technologies are strongly associated with operational efficiency, innovation, and organizational competitiveness across different sectors and contexts.

The findings further resonate with Hwang and Kim (2022), who reported higher technical efficiency among Korean SMEs adopting Fourth Industrial Revolution technologies. Similarly,

Joseph and Falana (2021) found that AI adoption positively related to bottom-line performance among Nigerian firms, while Chege et al. (2020) established a positive relationship between technological innovation and firm performance among Kenyan SMEs. Collectively, these studies reinforce the argument that emerging technologies enhance organizational responsiveness, process optimization, and strategic agility within increasingly digital business environments. The consistency between the present findings and earlier empirical studies strengthens the proposition that emerging technologies represent a critical strategic capability in modern organizational settings.

However, although the findings generally support prior empirical evidence, certain differences emerge regarding the magnitude and contextual interpretation of the relationship. For example, studies conducted in highly developed economies such as the United States, China, and South Korea often reported stronger performance gains associated with advanced technological adoption (Wamba-Taguimdje et al., 2020; Mishra et al., 2022; Hwang & Kim, 2022). The relatively moderate levels of technology adoption observed in the current study may reflect contextual constraints within the Kenyan insurance sector, including infrastructural limitations, high implementation costs, shortage of specialized technical expertise, and varying levels of digital maturity across firms. These factors may limit the extent to which emerging technologies can be fully integrated into organizational operations despite their positive association with performance.

Methodological differences may also explain variations across studies. Some prior studies relied on archival data, econometric analysis, or quasi-experimental approaches focusing on objective financial and productivity indicators (Sun & Jiao, 2023; Hwang & Kim, 2022), whereas the current study employed a cross-sectional survey design using perceptual organizational-level measures. Such methodological variations may influence the observed strength and interpretation of relationships between emerging technologies and performance outcomes. Furthermore, some studies concentrated narrowly on specific technologies such as AI or ERP systems (Mishra et al., 2022; Joseph & Falana, 2021), while the present study adopted a broader conceptualization encompassing multiple emerging technologies within the insurance context. This broader approach provides a more holistic understanding of digital transformation but may also capture heterogeneous technological effects that vary across firms.

Despite these contextual and methodological differences, the findings of the current study provide strong empirical support for the strategic relevance of emerging technologies within the Kenyan insurance industry. The results suggest that firms capable of effectively integrating advanced digital technologies into their operations tended to report stronger operational performance outcomes. The findings therefore reinforce the growing scholarly argument that emerging technologies represent not merely operational tools but strategically significant capabilities that increasingly shape competitiveness, innovation, and organizational effectiveness in digitally evolving industries.

5.3.4 Moderating Role of Governance on the Influence of Digital Capabilities on Operational Performance

The fourth objective of the study sought to examine the moderating role of governance on the relationship between digital capabilities and operational performance among general insurance companies in Kenya. The findings revealed that governance did not have a statistically significant direct relationship with operational performance. In addition, the interaction effects between governance and the digital capability variables, namely transaction security, digitally-enabled claims processing, and emerging technologies, were statistically non-significant. Therefore, the study did not find sufficient empirical evidence to conclude that governance directly influenced operational performance or significantly moderated the relationship between digital capabilities and operational performance among general insurance companies in Kenya. These findings suggest that the influence of digital capabilities on operational performance was largely independent of governance within the context of the firms studied.

The findings provide only partial support for the Dynamic Capabilities Theory (DCT), particularly regarding the role of organizational structures in facilitating the deployment and effectiveness of dynamic capabilities (Cristofaro & Lovallo, 2022). DCT posits that governance structures influence how firms sense opportunities, mobilize resources, and reconfigure operational processes in response to environmental changes (Brewis et al., 2023). From this perspective, governance mechanisms such as strategic oversight, leadership structures, and board effectiveness are expected to strengthen the effectiveness of digital capabilities by improving organizational coordination and strategic alignment. The positive but statistically non-significant findings imply that governance may contribute to organizational support and oversight without necessarily

altering the operational implications of digital capabilities in a substantial manner. This suggests that within the Kenyan insurance sector, the deployment and operational utilization of digital capabilities may be driven more by technological infrastructure, market pressures, and operational demands than by governance structures alone.

The findings also present important theoretical implications for the Resource-Based View (RBV) Theory. RBV emphasizes that governance mechanisms influence how internal resources are accumulated, protected, and strategically deployed to achieve competitive advantage (Barney et al., 2021). Effective governance is expected to enhance organizational ability to leverage strategic assets such as digital technologies through improved resource allocation, monitoring, and strategic decision-making (Lubis, 2022). However, the statistically non-significant moderating findings suggest that governance structures within the sampled insurance firms may not have been sufficiently differentiated to create meaningful variation in how digital capabilities translated into operational outcomes. One possible interpretation is that governance practices within the Kenyan insurance industry are relatively standardized due to regulatory oversight from the Insurance Regulatory Authority, thereby limiting governance-related heterogeneity across firms. Consequently, governance may function more as a compliance-oriented institutional mechanism rather than a strategically differentiating capability capable of significantly strengthening or weakening the relationship between digital capabilities and operational performance. This observation aligns with criticisms of RBV identified by Dionysus and Arifin (2020), who argue that the theory may overstate the strategic uniqueness of internal organizational structures while underestimating institutional homogenization and environmental constraints.

The findings partially align with several empirical studies reviewed in the literature. For example, Farooq et al. (2021) found that firm size positively moderated the relationship between innovation orientation and business performance among firms in India, while Mabenge et al. (2022) reported that organizational characteristics such as firm size and age strengthened the innovation-performance relationship among Zimbabwean SMEs. These studies support the broader proposition that internal organizational characteristics may shape how strategic capabilities relate to performance outcomes. Similarly, Kijkasiwat and Phuensane (2020) found that firm characteristics moderated the relationship between innovation and performance across firms in Eastern Europe and Central Asia, although the moderating effects varied depending on context and

measurement approaches. Collectively, these studies support the theoretical argument that organizational characteristics can influence the effectiveness of innovation and digital transformation initiatives.

However, the findings of the current study diverge from several prior studies that reported statistically significant moderating effects of organizational characteristics on innovation-performance relationships. For instance, Farooq et al. (2021) and Mabenge et al. (2022) found that firm characteristics strengthened the positive relationship between innovation and firm performance, whereas the present study found statistically non-significant interaction effects between governance and digital capabilities. Several explanations may account for this divergence. First, methodological differences may have contributed to the variation in findings. Previous studies frequently employed Structural Equation Modeling (SEM) approaches focusing on broader innovation constructs, whereas the current study used hierarchical multiple regression focusing specifically on digital capabilities within the insurance sector. Differences in analytical techniques, operationalization of constructs, and model specification may therefore have influenced the observed relationships.

Second, contextual differences may explain the divergence. Many prior studies were conducted within manufacturing sectors, SMEs, or cross-industry contexts characterized by greater variability in organizational structures and governance practices (Farooq et al., 2021; Kijkasiwat & Phuensane, 2020; Mabenge et al., 2022). In contrast, the Kenyan insurance sector operates within a relatively regulated environment where governance structures are guided by industry-wide compliance standards and regulatory frameworks established by the Insurance Regulatory Authority. Such regulatory standardization may reduce variability in governance practices across firms, thereby limiting the moderating potential of governance on the relationship between digital capabilities and operational performance.

The findings are, however, consistent with Kitenga et al. (2020), who found no statistically significant moderating effect of firm size on the relationship between dynamic capabilities and firm performance among manufacturing firms in Kenya. This similarity suggests that not all organizational characteristics necessarily strengthen or weaken the performance implications of strategic capabilities. Instead, the effectiveness of moderating variables may depend on contextual, sectoral, and technological conditions. The current findings therefore suggest that while

governance remains operationally important for oversight, compliance, and strategic coordination, its role as a moderating mechanism within digital transformation processes may be less pronounced than theoretically anticipated within the Kenyan insurance context. This may further imply that governance structures within the sampled firms were relatively homogeneous and therefore lacked sufficient variation to meaningfully alter how digital capabilities translated into operational performance.

Furthermore, the non-significant moderation findings may also indicate that the operational benefits associated with digital capabilities are increasingly embedded directly within technological systems rather than mediated substantially through governance arrangements. Technologies such as AI, automation, and digital platforms may independently enhance operational efficiency regardless of variations in governance structures, particularly in industries where digital adoption has become operationally necessary. Consequently, the findings imply that governance alone may not be sufficient to amplify the operational implications of digital capabilities unless accompanied by broader organizational transformation, strategic flexibility, and advanced technological maturity.

5.4 Recommendations

5.4.1 Policy Recommendations

Based on the study findings, the highest policy priority should be directed toward accelerating the adoption and integration of emerging technologies within the Kenyan insurance sector since emerging technologies demonstrated a positive and statistically significant association with operational performance. The Insurance Regulatory Authority (IRA), in collaboration with the Association of Kenya Insurers (AKI), should therefore develop sector-wide innovation frameworks that incentivize investments in technologies such as artificial intelligence, predictive analytics, blockchain, and automation through tax incentives, regulatory sandboxes, and digital innovation grants targeted at insurance firms.

Although transaction security and digitally-enabled claims processing did not demonstrate statistically significant effects on operational performance in this study, they remain important operational and regulatory considerations within the insurance sector. Policymakers should therefore continue supporting cybersecurity standards, digital claims management initiatives, and

industry interoperability frameworks to strengthen operational resilience, regulatory compliance, and customer protection. However, such interventions should not be viewed as measures that are directly supported by the findings of this study as drivers of operational performance.

The findings relating to governance suggest that governance structures alone may not substantially strengthen the operational performance effects of digital capabilities. Consequently, governance reforms within insurance firms should focus on enhancing digital awareness and technological competence among boards and senior management teams to support informed decision-making regarding digital transformation initiatives.

Finally, given the relatively stronger influence of firm size observed in the earlier regression models, policymakers should prioritize targeted digital support mechanisms for smaller and medium-sized insurers that may lack the financial and technical capacity to deploy advanced digital technologies at scale. Such support may help reduce digital disparities within the industry and promote broader sectoral competitiveness.

5.4.2 Managerial Recommendations

Based on the study findings, the primary managerial priority for insurance firms should be the strategic adoption and integration of emerging technologies into core business operations. Given the significant positive association between emerging technologies and operational performance, managers should prioritize investments in artificial intelligence, predictive analytics, automation, and advanced digital systems that enhance operational efficiency, innovation, customer service, and decision-making processes.

While transaction security and digitally-enabled claims processing did not demonstrate statistically significant effects on operational performance in this study, managers should continue maintaining and improving these capabilities due to their importance for regulatory compliance, operational continuity, fraud prevention, and customer confidence. Efforts to strengthen cybersecurity infrastructure and improve claims processing systems should therefore be viewed as essential operational practices rather than performance-enhancing initiatives directly supported by the study findings.

Managers should also focus on improving the effectiveness and integration of claims management systems by addressing operational bottlenecks, enhancing interoperability between systems, and utilizing data analytics to improve service delivery and customer experience. Future improvements in these areas may yield performance benefits that were not captured within the scope of the present study.

Finally, although governance did not demonstrate a significant direct or moderating effect, insurance firms should continue strengthening digital competence within leadership and governance structures. This may include enhancing technological expertise among senior executives, promoting collaboration between operational and technology functions, and ensuring that digital transformation initiatives receive appropriate strategic oversight and resource support.

5.4.3 Theoretical Recommendations

The findings of the study provide important implications for the refinement and extension of the Dynamic Capabilities Theory (DCT) and the Resource-Based View (RBV) Theory within the context of digital transformation and operational performance. The study found that emerging technologies had a statistically significant influence on operational performance, whereas transaction security and digitally-enabled claims processing did not demonstrate statistically significant effects. These findings suggest that digital capabilities should not be treated as a homogeneous construct. Rather, DCT and RBV may benefit from distinguishing between foundational digital capabilities and transformative digital capabilities. Foundational capabilities, such as transaction security and digitally-enabled claims processing, appear to support operational continuity, regulatory compliance, and service reliability but may not independently generate measurable performance improvements. In contrast, transformative capabilities, represented by emerging technologies, appear to have a more direct influence on organizational performance through innovation, adaptability, and strategic renewal.

The findings further suggest that DCT should place greater emphasis on technological transformation capabilities as a distinct category of dynamic capabilities. While the theory traditionally emphasizes sensing, seizing, and transforming opportunities, the results indicate that the ability to deploy and integrate emerging technologies may constitute a critical mechanism through which organizations achieve superior performance. Future theoretical developments

should therefore explore how firms build, combine, and reconfigure transformative digital technologies to enhance competitiveness and operational effectiveness in increasingly digital environments.

The findings also provide insights for RBV Theory. The absence of statistically significant effects for transaction security and digitally-enabled claims processing suggests that some digital resources may have become widely adopted across the industry and therefore may no longer provide a source of competitive advantage. This implies that RBV should more explicitly distinguish between digital resources that function as operational requirements and those that remain valuable, rare, difficult to imitate, and capable of generating superior performance outcomes. Such a distinction would improve the theory's ability to explain differential performance outcomes in industries characterized by widespread digital adoption.

With regard to governance, the statistically non-significant moderating effect suggests that governance structures may not automatically strengthen the performance effects of digital capabilities within highly regulated industries. Future theoretical development should therefore examine the conditions under which governance contributes to digital transformation outcomes and explore whether specific governance attributes, such as digital expertise, innovation orientation, or technology-focused leadership, are more influential than general governance structures.

Finally, the findings support greater theoretical integration between DCT and RBV. The results indicate that organizational performance depends not only on possessing digital resources but also on the ability to deploy and leverage transformative technologies effectively. Future theoretical models should therefore adopt a dynamic resource-capability perspective that combines the resource-based emphasis on strategic assets with the dynamic capabilities emphasis on adaptation, reconfiguration, and organizational learning in explaining digital transformation outcomes. Such theoretical development should further distinguish between digital capabilities that are necessary for operational continuity and those that create measurable performance differentiation, particularly in digitally evolving industries such as insurance.

5.5 Study Limitations

The study was subject to several limitations. First, the study adopted a cross-sectional research design, which limited the ability to examine changes in digital capabilities and operational performance over time. Consequently, the findings only reflect the conditions that existed during the period of data collection. Second, the study relied primarily on perceptual data collected through questionnaires administered to managerial respondents, which may have introduced subjective bias, social desirability bias, and variations in respondent interpretation, and potential common method bias arising from the use of a single source for both predictor and outcome variables. Third, the study focused exclusively on general insurance companies in Kenya, limiting the generalizability of the findings to other sectors of the economy, life insurance firms, or insurance markets operating under different institutional and technological conditions. In addition, although the study examined governance as a moderating variable, governance was operationalized broadly and may not have fully captured specific governance dimensions such as board technological expertise, ownership structure, or strategic digital leadership. This broad operationalization may have limited the ability of the study to detect more nuanced moderating effects of governance on the relationship between digital capabilities and operational performance. Finally, the study focused on selected digital capabilities and may not have captured other emerging technological or organizational factors that could influence operational performance within the insurance sector.

5.6 Areas of Further Research

Future studies should consider adopting longitudinal research designs to examine how digital capabilities and operational performance evolve over time and to provide deeper insights into long-term digital transformation processes within insurance firms. Further research should also incorporate mixed-methods approaches involving qualitative interviews and case studies to complement perceptual survey data and provide richer contextual understanding of digital capability deployment. In addition, future studies should extend the scope beyond general insurance companies to include life insurance firms, financial institutions, and other service industries in order to enhance the comparability and generalizability of findings across sectors and contexts. Researchers should also examine additional governance dimensions such as board technological competence, digital leadership orientation, ownership structure, and innovation

culture to provide a more nuanced understanding of governance within digital transformation processes. Finally, future studies should explore other emerging technological capabilities such as big data analytics, cloud computing, digital ecosystems, and platform-based innovations that may increasingly shape organizational performance in technologically evolving industries.

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APPENDICES

Appendix I: Letter of Introduction

You are invited to participate in a research study titled: “The Influence of Digital Capabilities on The Firm Performance of General Insurance Companies in Kenya: The Moderating Role of Firm Size, Age and Governance.”

This study is being conducted by Chantal Mutindi, a Master’s student at Strathmore University as part of the requirements for the degree program.

The purpose of this research is to examine how digital capabilities, such as transaction security, digitally-enabled claims processing efficiency, and emerging technologies, influence the performance of general insurance companies in Kenya, while also assessing the moderating role of firm size, age, and governance. Your participation will provide valuable insights that can guide digital transformation strategies and policy within the insurance sector.

If you agree to participate, you will be asked to complete a questionnaire, which will take approximately 10 to 20 minutes. Your responses will be treated with strict confidentiality and used solely for academic purposes. No personal or organizational identifiers will be disclosed in any reports or publications arising from this research.

Participation is completely voluntary, and you may choose not to respond to any question or to withdraw from the study at any point without any consequences.

If you have any questions or concerns, please contact me at:

Email: chantal.mutindi@strathmore.edu

Phone: +254 728 270 685

Thank you for considering participation in this study.

Sincerely,

Chantal Mutindi

Strathmore University

Appendix II: Participant Information and Informed Consent

PARTICIPANT INFORMATION AND CONSENT FORM

THE INFLUENCE OF DIGITAL CAPABILITIES ON OPERATIONAL PERFORMANCE OF GENERAL INSURANCE COMPANIES IN KENYA: THE MODERATING ROLE OF GOVERNANCE

SECTION 1: INFORMATION SHEET

Investigator: Chantal Mutindi Mbuvi

Institutional affiliation: Strathmore Business School (SBS)

SECTION 2: INFORMATION SHEET–THE STUDY

2.1 : Why is this study being carried out?

The main objective of the present study is to evaluate the influence of digital capabilities on the firm performance of general insurance companies in Kenya and the moderating role of governance on this relationship.

The specific objectives for the current research are:

- i. To examine the influence of transaction security on the operational performance of general insurance companies in Kenya.
- ii. To examine the influence of digitally-enabled claims processing on the operational performance of general insurance companies in Kenya
- iii. To examine the influence of emerging technologies on the operational performance of general insurance companies in Kenya
- iv. To examine the moderating role of governance on the influence of digital capabilities on the operational performance of general insurance companies in Kenya

2.2 : Do I have to take part?

No. Taking part in this study is entirely optional and the decision rests only with you. If you decide to take part, you will be asked to complete a questionnaire to get information on your demographic details, such as age, gender, and your position at the company. You will also provide information related to the influence of digital capabilities on the performance of your firm. If you are not able to answer all the questions successfully the first time, you may be asked to sit through another informational session after which you may be asked to answer the questions a second time. You are free to decline to take part in the study from this study at any time without giving any reasons.

2.3 : Who is eligible to take part in this study?

- senior managers responsible for operations, IT, or strategy in insurance firms
- Those aged 18+ years

- Those who do not have any cognitive impairments

2.4 : Who is not eligible to take part in this study?

- Those who have cognitive impairments
- Those who are below the age of 18 years

2.5 : What will taking part in this study involve for me?

You will be approached by Chantal Mutindi and requested to take part in the study. If you are satisfied that you fully understand the goals behind this study, you will be asked to sign the informed consent form (this form) and then taken through a questionnaire to complete.

2.6 : Are there any risks or dangers in taking part in this study?

There are no risks in taking part in this study. All the information you provide will be treated as confidential and will not be used in any way without your express permission.

2.7 : Are there any benefits of taking part in this study?

The information will contribute to a better understanding of how digital capabilities can be leveraged to enhance the performance of insurance companies.

2.8 : What will happen to me if I refuse to take part in this study?

Participation in this study is entirely voluntary. Even if you decide to take part at first but later change your mind, you are free to withdraw at any time without explanation.

2.9 : Who will have access to my information during this research?

All research records will be stored in securely locked cabinets. That information may be transcribed into our database but this will be sufficiently encrypted and password protected. Only the people who are closely concerned with this study will have access to your information. All your information will be kept confidential.

2.10 : Who can I contact in case I have further questions?

You can contact me, Karanja Kamotho, at SBS, or by e-mail (chantal.mutindi@strathmore.edu), or by phone (+254 728 270 685). You can also contact my supervisor, Dr. David Mathuva, at the Strathmore Business School, Nairobi, or by e-mail (dmathuva@strathmore.edu) or by phone (254 (0) 703 034587 (Ext: 2587))

If you want to ask someone independent anything about this research please contact:

The Secretary–Strathmore University Institutional Ethics Review Board, P. O. BOX 59857, 00200, Nairobi, email ethicsreview@strathmore.edu Tel number: +254 703 034418

I, _____, have had the study explained to me. I have understood all that I have read and have had explained to me and had my questions answered satisfactorily. I understand that I can change my mind at any stage.

Please tick the boxes that apply to you;

Participation in the research study

☐

I AGREE to take part in this research

☐

DON'T AGREE to take part in this research

Storage of information on the completed questionnaire

☐

I AGREE to have my completed questionnaire stored for future data analysis

☐

DON'T AGREE to have my completed questionnaire stored for future data analysis

Participant's Signature:

Date: ____/____/____

*DD / MM /
YEAR*

Participant's Name:

(Please print name)

Time: ____/____

HR / MN

I, _____ (Name of person taking consent) certify that I have followed the SOP for this study and have explained the study information to the study participant named above, and that s/he has understood the nature and the purpose of the study and consents to the participation in the study. S/he has been given opportunity to ask questions which have been answered satisfactorily.

Investigator's Signature:

Date: ____/____/____

DD / MM / YEAR

Investigator's Name:

(Please print name)

Time: ____/____

HR / MN

Appendix III: SU-ISERC Ethical Approval



12th February 2026

Ms Mbuvi Chantal,
chantal.mbuvi@strathmore.edu

Dear Ms Mbuvi,

RE: The Influence of Digital Capabilities on Operational Performance of General Insurance Companies in Kenya: The Moderating Role of Governance

This is to inform you that SU-ISERC has reviewed and approved your above SU-masters research proposal. Your application reference number is SU-ISERC3290/26. The approval period is from 12th February 2026 to 11th February 2027.

This approval is subject to compliance with the following requirements:

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

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

Yours sincerely,

Mr Ambrose Rachier,
Chairperson; SU-ISERC

Appendix IV: NACOSTI License

 REPUBLIC OF KENYA Ref No: 368512	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION Date of Issue: 19/February/2026
RESEARCH LICENSE	
	
This is to Certify that Miss. CHANTAL MUTINDI MBUVI of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: THE INFLUENCE OF DIGITAL CAPABILITIES ON OPERATIONAL PERFORMANCE OF GENERAL INSURANCE COMPANIES IN KENYA: THE MODERATING ROLE OF GOVERNANCE for the period ending : 19/February/2027.	
License No: NACOSTI/P/26/4185318	
368512	
Applicant Identification Number	
Ag. Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION	
Verification QR Code	
	
NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.	
See overleaf for conditions	

Appendix V: Questionnaire

Section I: Demographic Profile

Please tick the appropriate response for the following statements

1. Please indicate your gender:
Male ☐
Female ☐
2. Indicate age group
18–24 years ☐
25–34 years ☐
35–44 years ☐
45–54 years ☐
55 years and above ☐
3. Indicate highest level of education completed
Diploma ☐
Bachelor's Degree ☐
Postgraduate Diploma ☐
Master's Degree ☐
Doctorate (PhD) ☐
Other (please specify): _____
4. What is your current position in the company
Claims Manager ☐
Underwriting Manager ☐
IT Manager ☐
Operations Manager ☐
Finance Manager ☐
Other (please specify): _____
5. Indicate how many years have you worked in the insurance industry
Less than 2 years ☐
2–5 years ☐
6–10 years ☐
Over 10 years ☐
6. How long have you worked in your current company?
Less than 2 years ☐
2–5 years ☐
6–10 years ☐
Over 10 years ☐
7. How many employees does your company have?
Less than 50 ☐
50–99 ☐
100–249 ☐

- 250–499 ☐
- 500 and above ☐
8. How long has your company been in operation?
- Less than 5 years ☐
- 5–10 years ☐
- 11–20 years ☐
- More than 20 years ☐
9. Is your company part of a local, regional, or international group?
- Local ☐
- Regional (East Africa) ☐
- International ☐

Section II: Transaction Security

Indicate the extent to which you agree with the following statements.

(SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree)

Please tick in the appropriate box.

Statement	SD	D	N	A	SA
Our company uses strong data encryption methods to protect customer and transactional data.					
The use of encryption technologies in our firm has enhanced data security					
Our cybersecurity infrastructure (such as firewalls, anti-malware) has minimized service disruptions					
We have implemented strong cybersecurity protocols in our operations					
Our company has experienced minimal or no data breaches or fraud incidents in the past 12 months					
A low frequency of security incidents in our company has boosted client confidence and positively influenced performance.					
Our secure customer authentication mechanisms (e.g., two-factor authentication, OTP) have reduced fraud and improved transaction integrity					
Implementing secure login and verification methods has increased transaction reliability					
Our company adheres to adherence to cybersecurity regulations (e.g., ISO 27001)					
Our company complies with Compliance with industry-standard cybersecurity frameworks					

Section III: Digitally-Enabled Claims Processing

Indicate the extent to which you agree with the following statements.

(SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree)

Please tick in the appropriate box.

Statement	SD	D	N	A	SA
Our firm processes claims within a short timeframe					
The speed of our claims processing system improves client retention and contributes to operational efficiency.					
A significant proportion of our claims are processed digitally or automatically					
Digital automation in claims processing has improved accuracy and efficiency					
Most claims submitted to our firm are approved on the first submission					
Our high first-time claim approval rate contributes to faster service delivery and improved financial performance.					
Customers are generally satisfied with the speed and transparency of our claims handling					
Positive feedback from customers on claims handling has strengthened our firm's competitive edge and overall performance.					
Our firm effectively resolves customer complaints related to claims, which improves our brand image and operational outcomes.					
Timely resolution of claims complaints contributes to stronger customer relationships and improved service performance.					

Section III: Emerging Technologies

Indicate the extent to which you agree with the following statements.

(SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree)

Please tick in the appropriate box.

Statement	SD	D	N	A	SA
Our firm uses artificial intelligence tools such as chatbots and automated underwriting					
The adoption of AI tools in our firm has improved customer service and contributed positively to our performance.					
We have implemented blockchain technologies for secure claims verification and data sharing					
The use of blockchain in our operations has improved transparency and reduced fraud,					
Our firm utilizes Internet of Things (IoT) tools such as telematics to offer personalized insurance services					

IoT technologies have enabled real-time monitoring and risk assessment in our company					
We have made substantial investments in digital infrastructure to support innovation and long-term business growth.					
Investment in advanced digital systems has improved our operational efficiency and competitiveness in the market.					
Our firm integrates big data analytics into decision-making processes,					
The use of data-driven insights has enhanced our firm's ability to adapt to market trends and improve service delivery.					

Section IV: Governance

Indicate the extent to which you agree with the following statements.

(SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree)

Please tick in the appropriate box.

Statement	SD	D	N	A	SA
Our board of directors provides effective oversight that supports strategic decisions					
Governance structures in our organization offer clear oversight that positively influences operational and financial outcomes.					
Our leadership provides clear strategic direction that aligns with the firm's long-term performance goals.					
Strategic guidance from top management contributes directly to improved decision-making and firm performance.					
Our organization ensures transparency in reporting					
We maintain clear and open communication channels that promote transparency					
Our governance policies ensure strong compliance with industry and regulatory standards					
Our firm adheres to compliance frameworks and regulatory requirements enhance					

Section VII: Operational Performance

Indicate the extent to which you agree with the following statements.

(SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree)

Please tick in the appropriate box.

Statement	SD	D	N	A	SA
Our firm consistently achieves a fast turnaround time when processing customer claims.					

Transactions within our firm are processed accurately and promptly, enhancing operational efficiency.					
Our customers express high satisfaction with the quality and timeliness of service delivery.					
Our internal processes are well-optimized and contribute to effective service delivery and productivity.					
Our firm has maintained strong growth in gross written premiums over recent years.					
We consistently maintain a favorable claims ratio that reflects prudent risk management.					
Our underwriting operations generate consistent profit, contributing to overall financial performance.					
Our return on assets reflects effective utilization of firm resources and contributes to long-term financial sustainability.					

Thank You

Appendix VI: List of General Insurance Companies in Kenya

No.	GENERAL INSURANCE COMPANIES	AUTHORISED CLASSES OF BUSINESS
1	AAR Insurance (Kenya) Limited	02, 03, 04, 05, 06, 09, 10, 11, 12,14
2	Africa Merchant Assurance Company Limited	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 14
3	NCBA Insurance Company Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,14
4	APA Insurance Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 14
5	Britam General Insurance Company (K) Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 14
6	Cannon General Insurance Company Limited	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 14
7	CIC General Insurance Limited	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 14
8	Corporate Insurance Company Limited	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 14
9	Directline Assurance Company Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,14
10	Definite Assurance Company Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,12, 14
11	Equity General Insurance (Kenya) Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,12, 14
12	Fidelity Shield Insurance Company Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,12, 14
13	First Assurance Company Limited	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12,14
14	GA Insurance Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,12, 14
15	Geminia Insurance Company Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,14
16	ICEA LION General Insurance Company Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,12, 14

17	Intra Africa Assurance Company Limited	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 14
18	Jubilee Allianz General Insurance Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,12, 14
19	Jubilee Health Insurance Limited	12
20	Kenindia Assurance Company Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,12, 14
21	Kenya Orient Insurance Limited	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 14
22	Madison General Insurance Kenya Limited	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12,14
23	Mayfair Insurance Company Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,14
24	MUA Insurance (Kenya) Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,12, 14
25	Occidental Insurance Company Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,14
26	Old Mutual General Insurance Kenya Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,12, 14
27	Pacis Insurance Company Limited	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12,14

No.	GENERAL INSURANCE COMPANIES	AUTHORISED CLASSES OF BUSINESS
28	Pioneer General Insurance Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12,14
29	Sanlam General Insurance Company Limited	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 14
30	Star Discover Insurance Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,12, 14
31	Takaful Insurance of Africa Limited	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12,14
32	Tausi Assurance Company Limited	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12,14
33	The Heritage Insurance Company Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,12, 14
34	The Kenyan Alliance Insurance Company Limited	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12,14
35	The Monarch Insurance Company Limited	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 14
36	Trident Insurance Company Limited	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11,12, 14

Appendix VII: Diagnostic Tests



Figure 4.1: Scatter Plot – Operational Performance by Transaction Security
Source: Researcher (2026)

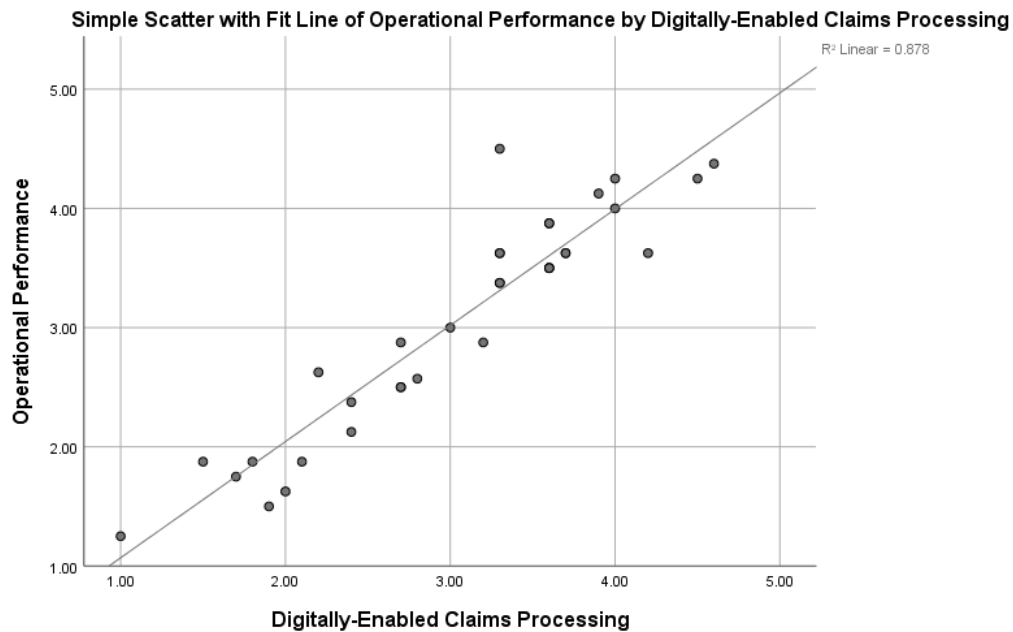


Figure 4.2: Scatter Plot – Operational Performance by Digitally-Enabled Claims Processing
Source: Researcher (2026)

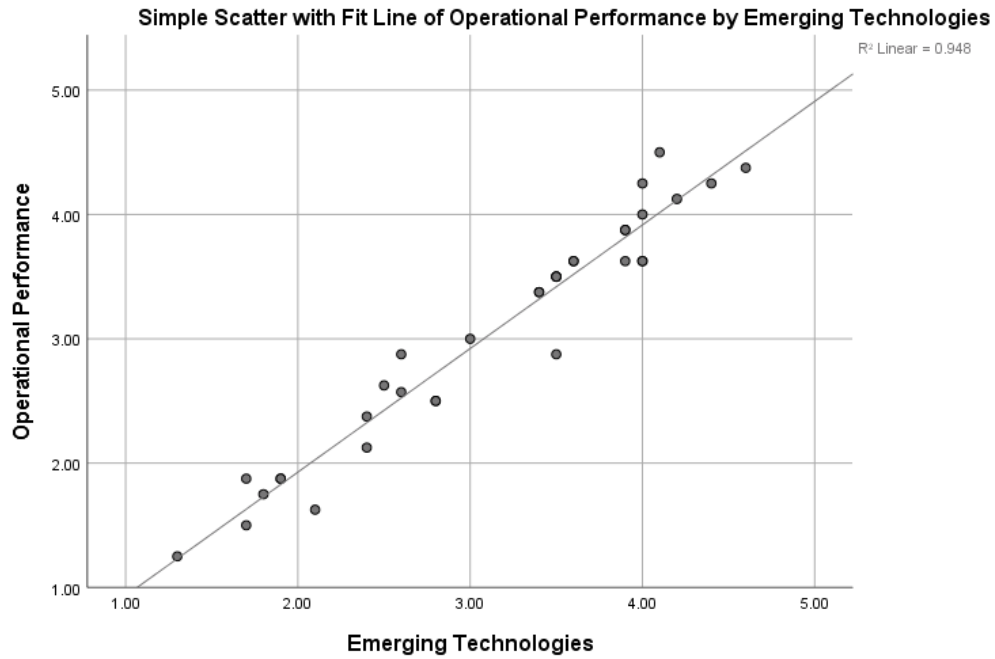


Figure 4.3: Scatter Plot – Operational Performance by Emerging Technologies
Source: Researcher (2026)

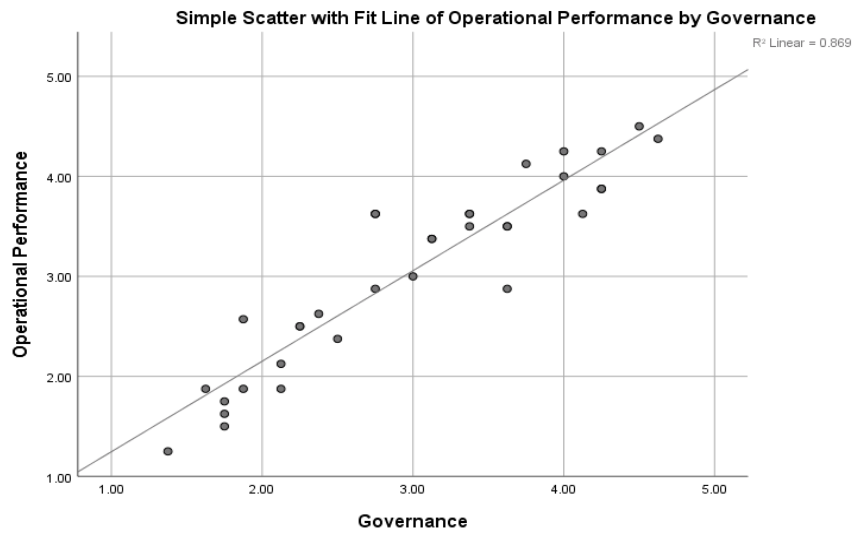


Figure 4.4: Scatter Plot – Operational Performance by Governance
Source: Researcher (2026)

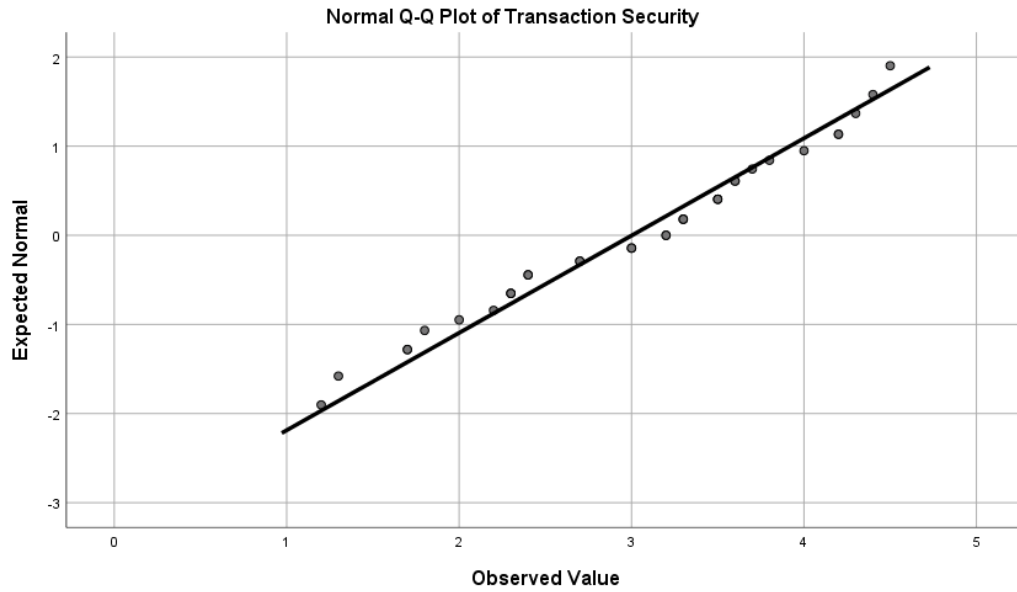


Figure 4.5: Normal Q-Q Plot for Transaction Security
Source: Researcher (2026)

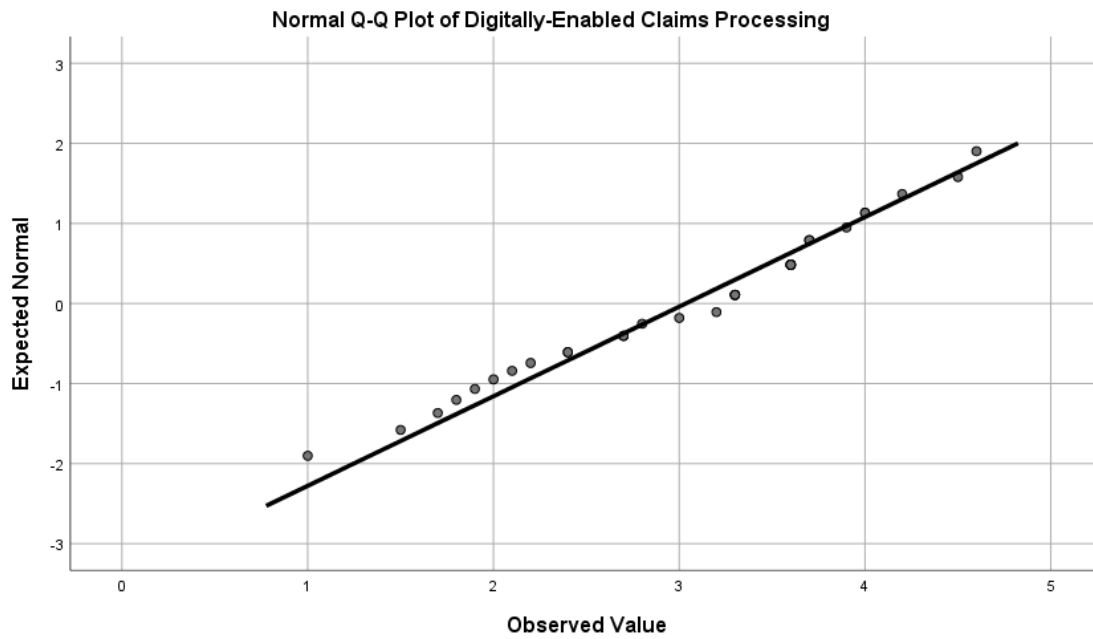


Figure 4.6: Normal Q-Q Plots for Digitally-Enabled Claims Processing
Source: Researcher (2026)

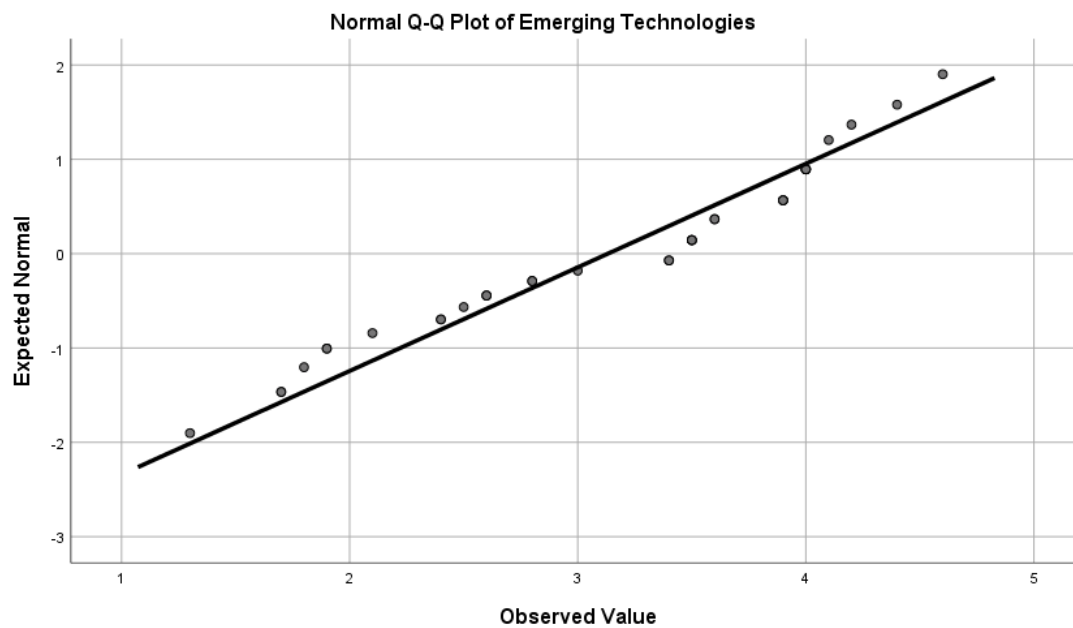


Figure 4.7: Normal Q-Q Plot for Emerging Technologies
Source: Researcher (2026)

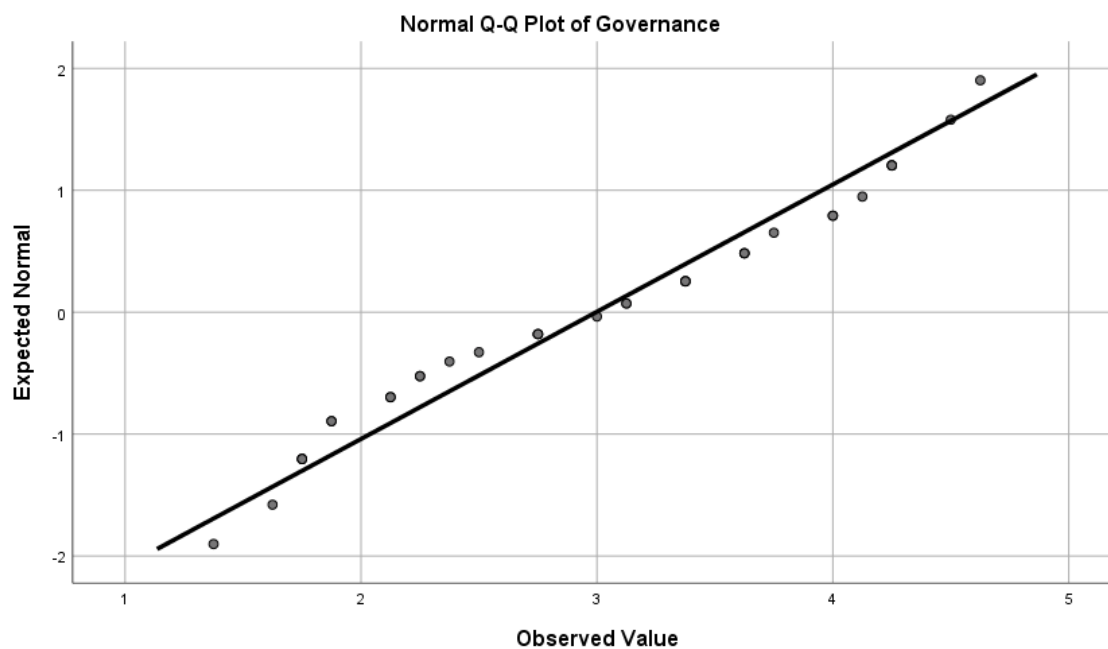


Figure 4.8: Normal Q-Q Plot for Governance
Source: Researcher (2026)

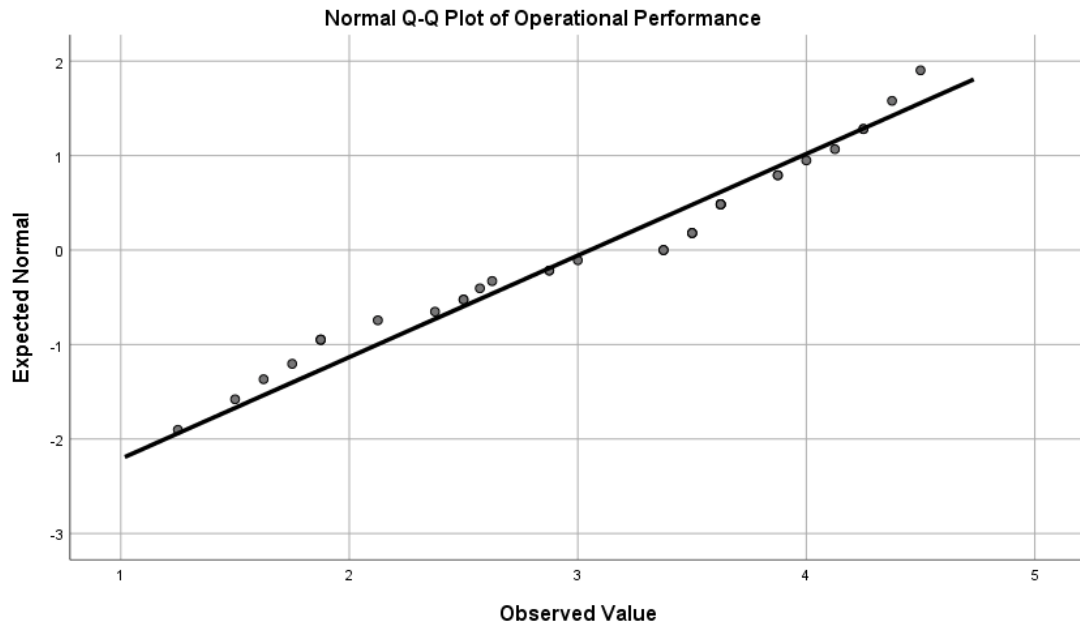


Figure 4.9: Normal Q-Q Plot for Operational Performance
Source: Researcher (2026)

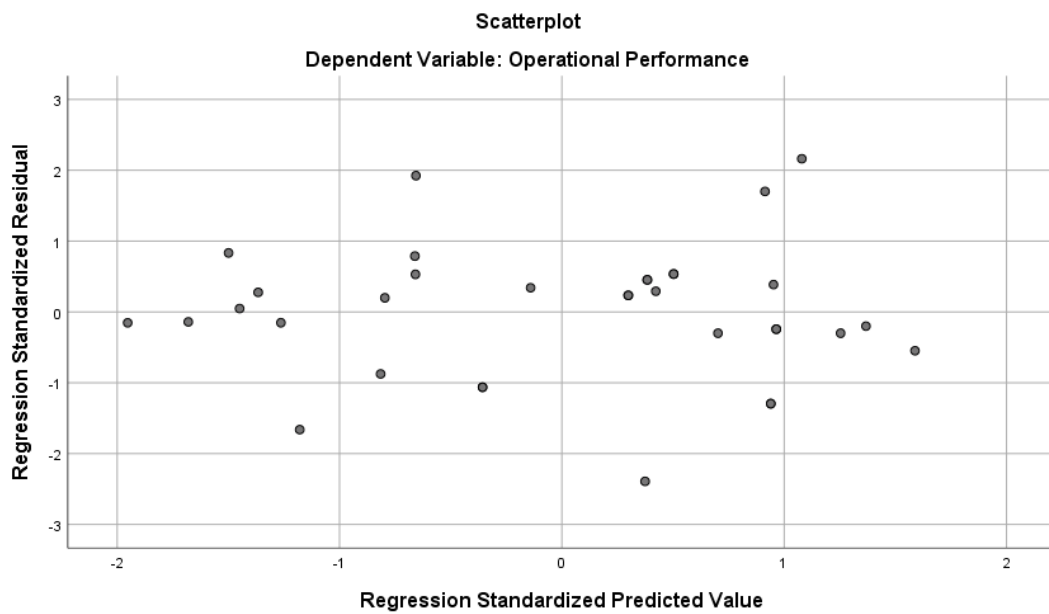


Figure 4.10: Standardized residuals against predicted values
Source: Researcher (2026)