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MODERNIZATION STRATEGY AND PERFORMANCE OF GOVERNMENT COMMERCIAL INSTITUTIONS IN KENYA

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ABSTRACT: *Kenya government commercial institutions are operating in a more intricate and competitive environment that requires adaptability, creativity, and strategic modernization. This study takes into account the intersection of modernization efforts and performance of government commercial institutions with focus on how organizational performance is influenced by improvements in technology, digitization, and business process engineering. The research aims to evaluate if modernization as an element of turnaround strategy contributes to operational efficiency, improved delivery of services, and institution sustainability. Using a descriptive survey design, the study targeted a population of 34 government-owned commercial entities in Kenya. Primary data were collected using structured questionnaires and statistically analyzed using descriptive statistics and linear regression modeling via SPSS. Post-positivist philosophy and quantitative orientation were adopted by the research to allow for replicability and objectivity of findings. The results showed that modernization exerts a significant influence on organizational performance when implemented with strategic fit and adequate resource support. Specifically, in-house business process automation, digital innovation, and infrastructure improvements were established to streamline operations and reduce redundancies in operations. However, the study also established that targeted modernization initiatives lacking strategic integration or launched in the absence of good change management frameworks are likely to yield little in terms of performance improvement. Furthermore, political factors were established to have the role of moderators between the performance-modernization approach relationship, thereby emphasizing the need for enabling policy and regulatory environments. The study concludes that modernization is not just a technical or technological process but also a strategic imperative for public sector organizations to enhance performance and remain pertinent in an increasingly dynamic economic landscape. It recommends modernization to be institutionalized as an ongoing practice supported by leadership, capacity building, and continuous monitoring.*

KEYWORDS: Modernization Plan, Public Sector Performance, Government Commercial Organizations, Digitalization, Automation of the Process, Turnaround Plan, Organizational Performance, Kenya, Strategic Alignment, Political Environment.

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BACKGROUND OF THE STUDY

Kenya's commercial state corporations play a vital role as agents of national development, delivering strategic products and services within the infrastructure, energy, transport, agriculture, and financial sectors. In the past, these corporations were created to plug gaps in markets by the private sector and for the purpose of distributing resources in an equitable manner. But the 21st-century global movement for market efficiency, information technology, and people-centric governance has brought about a need to modernize these public enterprises. Modernization here means the intentional re-engineering and restructuring of commercial state corporations to enhance public value delivery, financial performance, and operational efficiency through innovation, digital platforms, and strategic management (Muturi & Wambua, 2023; Wanyama & Aila, 2022).

The Government of Kenya has implemented various reforms with the view to transforming state corporations from inefficient and bureaucratic institutions to competitive, agile, and self-sustaining enterprises. Central to this process of modernization is the bringing together of digital technologies, performance-based management systems, and customer-oriented models of service delivery (Mwangi, 2021). The implementation of Enterprise Resource Planning (ERP) systems, digital payment systems, and automation of internal processes in organizations like Kenya Power, Kenya Ports Authority, and Kenya Railways are examples of streamlining processes and enhancing transparency (Kamau & Simiyu, 2019). These interventions are designed to reduce operational costs, eliminate revenue leakages, and increase responsiveness to market dynamics.

Further, the modernization strategy involves corporate governance reforms, emphasizing merit-based appointments, accountability, and strategic leadership. To this end, the Mwongozo Code of Governance for State Corporations was developed to promote ethical leadership, enhance board effectiveness, and ensure alignment with national development goals such as Kenya Vision 2030 and the Bottom-Up Economic Transformation Agenda (BETA). However, implementation has been uneven due to political interference, capacity limitations, and entrenched resistance to change (Fiebelkorn, Owuor, & Nzioki, 2021). In addition, modernization involves redefining the role of the state from an operator to a regulator and facilitator. This includes adopting public-private partnership (PPP) models and commercializing non-core operations to enhance sustainability. For example, Kenya Railways has entered into partnerships with private investors to revitalize commuter rail services, while Kenya Ports Authority has modernized cargo handling through digital tracking systems and stakeholder engagement (Omondi & Waweru, 2021).

Nonetheless, several challenges persist. These include legacy systems, weak institutional frameworks, budgetary constraints, and skills mismatches. Moreover, modernization efforts are often fragmented and lack long-term strategic alignment. Therefore, there is a growing need for integrated modernization strategies anchored in innovation, digital transformation, stakeholder engagement, and strategic foresight. Modernizing commercial state corporations in Kenya is no longer optional but a prerequisite for performance improvement, fiscal sustainability, and relevance in a dynamic economic environment. As such, research into the effectiveness of modernization strategies and their impact on organizational performance remains vital for public sector transformation.

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Statement of the Problem

Despite their pivotal role in Kenya's socio-economic development, commercial government institutions have continued to underperform, recording mounting losses, operational inefficiencies, and greater reliance on public subsidies (National Treasury, 2022; Office of the Auditor General, 2022). Accordingly, various turnaround strategies—ranging from modernization, innovation, restructuring, and repositioning—have been initiated to stem decline and entrench effectiveness (Wandera, 2018; Nduta & Deya, 2020; Musango, 2021). Among these, modernization efforts such as digitization, automation of systems, and governance reforms are being more prominently featured as essential tools for enhancing performance, transparency, and delivery of public value (Mwangi & Waiganjo, 2021; Musango, 2021).

However, the impact of modernization in the public sector context is poorly understood. While modernization has driven efficiency and innovation in private sector institutions, its adoption in state-owned enterprises has been confronted with significant challenges, including political interference, bureaucratic complacency, poor change management, and lack of financial capacity (Odhiambo, 2021; Ong'olo & Awiti, 2020). Furthermore, the modernization of government commercial institutions is reactive and ad hoc, having been triggered by either crises or external audits rather than underpinned by long-term strategy and institutional renewal (UNDP, 2023; Kariuki & Murage, 2020).

Literature has hitherto investigated these interventions individually or in specific sectors, with scant shedding of light on their synergy and applicability across public institutions (Mulei, 2020; Mutuma & Kihara, 2022). Of paramount concern is a knowledge gap on how modernization interfaces with other turnaround approaches—such as restructuring and repositioning—and how these combined approaches influence overall institutional performance within Kenya's unique governance and administrative environment (Muriithi et al., 2021). This study, therefore, seeks to investigate the joint role of modernization as a component of an overarching strategic turnaround model. It answers the urgent need to understand under what conditions modernization produces long-term performance improvements and how it can effectively be designed and implemented in the complex, politicized, and hybrid-function setting of the government commercial institutions of Kenya (Republic of Kenya, 2023; Githinji & Kirimi, 2021).

Objective of the Study

To evaluate the relationship between modernization strategy and performance of government commercial institutions in Kenya

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LITERATURE REVIEW

Theoretical Framework

Dynamic Capabilities (DCs) Theory

Dynamic capabilities (DCs) theory has been a significant innovation in strategic management as a reaction to the limitations of the Resource-Based View (RBV) of the firm, namely its relatively static explanation of competitive advantage in the context of rapidly evolving markets. The RBV is concerned with the notion that firms can achieve greater performance by controlling valuable, rare, inimitable, and non-substitutable resources (Barney, 2020). Despite that model providing a satisfactory premise for how firms leverage internal resources for competitive purposes, it is premised on the assumption that such assets and abilities are reasonably stable over time and does not in its formulation target adjusting in dynamic settings (Zahra et al., 2021). This shortcoming limits the relevance of the RBV in today's marketplaces characterized by technological disruption, globalization, and volatile customer preferences, where continuous adaptation and innovation are required to survive and thrive.

Dynamic capabilities theory was originally put forward by Teece, Pisano, and Shuen in 1997 as a mechanism to advance RBV by addressing how firms construct, integrate, and reconfigure resources and organizational processes so that they can react well to changing environmental conditions at a fast pace (Teece et al., 1997). Since its formulation, the concept has evolved with each successive academic refinement to emphasize the processes and routines that enable firms to identify new opportunities and dangers, seize those opportunities, and remain competitive by reorganizing assets and restructuring the organization (Cristofaro & Lovallo, 2023; Teece, 2023). These abilities are not merely a matter of having resources but of the company's capacity to learn, innovate, and transform continuously—key features for long-term competitive advantage in turbulent environments.

The primary dynamic capabilities assumption is that in an evolving business landscape, firms must move beyond operational efficiency and the exploitation of resources (which are of concern to operational capabilities) to include exploration, innovation, and strategic renewal (Wandera & Njeru, 2021; Pereira et al., 2022). The operational capabilities are the firm's capacity to leverage the available resources and capabilities effectively in current markets, such as production efficiency and customer service excellence. However, such skills are typically insufficient to sustain competitive edge over time when the market conditions radically change. Dynamic capabilities enable firms to align complex change in processes, assets, and business models to address disruptive technology, shifting tastes of consumers, regulatory demands, and competitive pressures (Teece, 2023). They encapsulate a firm's ability to reconfigure its asset base, internal routines, and external relationships in order to remain flexible and responsive.

Current studies stress that dynamic capabilities are three interconnected activities: sensing, seizing, and transforming (Teece, 2023; Chari et al., 2023). Sensing refers to scanning and analyzing the environment to identify nascent opportunities or threats. It requires investment in market research, technology scanning, and mechanisms of learning within the organization that can detect early cues before competitors do. Seizing refers to the mobilization of assets and the development of new business models for the purpose of taking advantage of perceived opportunity. This can involve strategic investment, the formation of partnerships, or the development of new products or services. Transforming refers to continuous redefinition of

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organizational forms, cultures, and processes in order to stay competitive and replenish capabilities over time. Together, these processes support continuous adaptation and evolution necessary for survival within highly dynamic industries.

Dynamic capabilities, on the other hand, depend heavily on internal systems of governance and organizational culture that foster flexibility, experimentation, and fast decision-making (Pundziene et al., 2023; Meirelles & Camargo, 2021). Firms with decentralized decision rights, effective incentive systems, and sharing of knowledge are more likely to achieve dynamic capabilities. Such governance structures stimulate all employees to submit ideas, engage in problem-solving, and support change initiatives (Chari et al., 2023). An open-learning culture and one that embraces measured risk-taking provide a fertile ground for dynamic capabilities to evolve and be practiced. Alternatively, bureaucratic and rigid organizational structures can stifle the necessary flexibility and responsiveness and therefore deliver lower competitive performance.

It is also interesting to note that dynamic capabilities are not merely about internal processes but are also inclusive of managing external relations and networks (Pereira et al., 2022). Firms today operate within systems in which engagement with suppliers, customers, regulators, and even competitors is unavoidable. Dynamic capabilities enable firms to reconfigure these external relationships, establish strategic alliances, and leverage complementary assets that enhance innovation and adaptability (Zahra et al., 2021). Ecosystem orchestration that takes place in this way extends the firm's ability to sense and capture new opportunities outside its boundaries.

Strategic management, in this regard, relies on the dynamics of dynamic and operational capabilities to ensure business performance. Operational capabilities must be able to offer current goods or services at low cost while maintaining customer satisfaction, thereby strengthening short-run competitiveness. Dynamic capabilities, instead, drive strategic renewal and discovery to allow businesses to change their business models, expand into new markets, or develop breakthrough innovations (Teece, 2023). The two sets of capabilities are required but serve different purposes: operational capabilities consolidate the firm's current position, while dynamic capabilities enable long-term survival and growth amidst uncertainty and change.

Also, dynamic capabilities have been linked with increased organizational resilience, which is increasingly vital in the face of economic shocks, pandemics, or geopolitical tensions (Wandera & Njeru, 2021). Firms with strong dynamic capabilities are able to shift strategy rapidly, reallocate resources, and construct processes to buffer shocks and capture emergent opportunities and thus are better placed to preserve competitive advantage in the long term (Cristofaro & Lovallo, 2023). This enables not just firm survival but also continued value creation for stakeholders.

Theoretical development of dynamic capabilities has also encouraged methodological advances on how scholars measure and assess these constructs. Traditionally viewed as intangible and unmeasurable, scholars have developed models that operationalize dynamic capabilities using measures such as the frequency at which strategic decisions are made, R&D expenditure, flexibility in resource reallocation, and knowledge management system competence (Chari et al., 2023; Pereira et al., 2022). These measurement techniques are used to bridge the distance between theoretical abstraction and practice application, enabling

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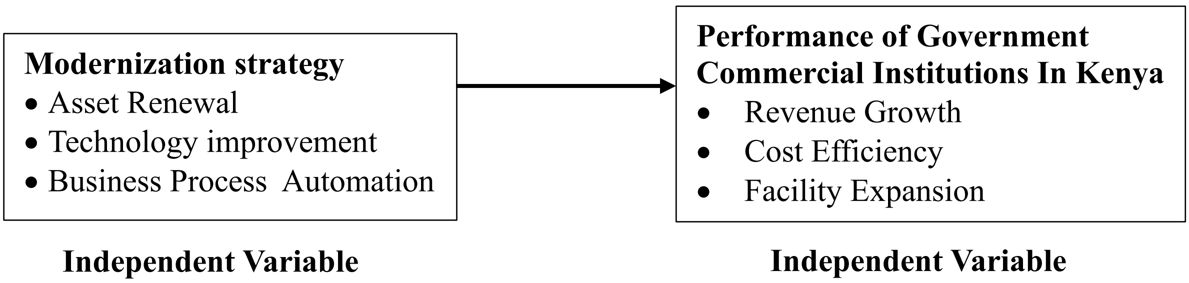
companies to identify capability strengths and weaknesses and implement supportive interventions.

Generally, dynamic capabilities theory is a valuable extension of the Resource-Based View that offers a more dynamic and process-oriented understanding of how companies acquire and sustain competitive advantage in environments with uncertainty. Through the spotlight on the sense-making of continuous market change, pursuit of opportunities through mobilization of resources, and recombination of organizational assets and structures, dynamic capabilities provide a theoretical framework for dealing with complexity and uncertainty in the modern business landscape (Teece, 2023; Zahra et al., 2021). The theory emphasizes the requirement for plural governance forms, successful culture, and collaborative ecosystem drive as catalysts for such capabilities, noting their centrality in facilitating innovation, strategic renewal, and resilience. With more and more disruptive markets and rising competitive pressures, the dynamic capabilities approach remains an essential tool for managers and researchers alike trying to understand and guide sustainable firm performance into the 21st century.

Conceptual Framework

Figure 1: Conceptual Framework



Empirical Review

Modernization Strategy

Modernization has become a beacon in the modernization of the government commercial institutions in Kenya with the aim of enhancing efficiency, service delivery, and overall performance in the face of rising competitive threats and ever-changing market conditions. This general strategy entails asset renewal, innovation in technology, and the adoption of business process automation, each serving to rejuvenate these institutions to long-term sustainability (Wanyoike & Muturi, 2021; Gathege & Wanjau, 2020).

Asset replacement is at the core of modernization efforts. The majority of commercial institutions of the government operate with old equipment, machinery, and infrastructure, which adversely affects their cost-effectiveness, service quality, as well as operational efficiency (Kiptoo et al., 2023). By investing in replacing old assets with new, high-performance ones, these institutions are in a position to reduce maintenance costs, improve operational reliability, as well as align with modern industry standards. This is particularly crucial for sectors where technology advances rapidly render obsolete existing systems. Renewal of transport fleets, production facilities, and office equipment ensures enhanced

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operation and delivery of services (Njoroge, 2021). Combined with overall turnaround plans, asset renewal contributes to the operating improvement as well as the financial and long-term institutional sustainability (Mwirigi & Kimani, 2020).

Technological advancement is another support column of modernization. Utilization and leveraging technology help institutions to centralize internal procedures, improve strategic decision-making, and improve customer experience. The Kenyan government has witnessed the power of digital technology such as cloud computing, artificial intelligence (AI), data analysis, and digital platforms to revolutionize. The technology helps to improve data handling, eliminate redundant processes, and facilitate easier-informed and timely decisions (Otieno & Muathe, 2022). For instance, customer service platforms powered by AI enhance responsiveness and customized service, leading to better customer satisfaction. Analytics platforms give rich insight into market trends and performance metrics, thereby enhancing strategic agility and responsiveness (Kariuki & Wanjiku, 2021). Commercial institutions in government that invest in new technology improve responsiveness, effectiveness, and competitiveness in a digital economy (Wanjohi, 2023).

Automation of business processes also plays an essential role in the modernization strategy. The majority of public commercial institutions continue to rely on manual, duplicative processes that result in inefficiencies, delays, and increased costs of operation (Wekesa & Njoroge, 2021). Automation replaces these outmoded processes with streamlined digital processes that improve speed, precision, and transparency. For example, automating procurement and inventory management systems reduces errors, enhances traceability, and reduces costs. Similarly, automated front-end operations—such as billing and complaint resolution—mean faster service delivery and enhanced customer satisfaction (Onyango et al., 2020). Coupled with broader turnaround programs, business process automation facilitates resource optimization and offers quantifiable improvements in the performance of institutions (Murithi, 2022).

These modernization efforts are backed up by national initiatives at upgrading digital infrastructure and connectivity. The government of Kenya has undertaken a large-scale effort to roll out 100,000 kilometers of fiber-optic cable across the country to cover health facilities, schools, the judiciary, and other government offices (Kenya Yearbook, 2022). The expansive network aims to enable the delivery of e-government services, increase digital literacy, and support development of the digital economy. Additionally, the government is launching 25,000 public Wi-Fi hotspots in bazaars, bus terminals, and other public spaces to enhance internet access and stimulate innovation. All these are part of the broader National Digital Master Plan (2022–2032), which seeks to digitize over 80% of government services, enhance data safety and cybersecurity, and stimulate the creative economy (Communications Authority of Kenya, 2023).

The establishment of digital innovation centers across the country also reaffirms the vision for the process of modernization. The centers, equipped with learning centers, working and innovation labs, Wi-Fi hotspots, and co-working space, will educate the citizens in digital skills and offer employment opportunities. By promoting an innovative culture and lifelong learning, these centers facilitate the development of a digitally enabled workforce capable of driving innovation and change within the government's commercial institutions (ICT Authority, 2023; Omondi, 2024). These efforts complement Kenya's digital transformation strategy and have already begun to yield real returns in terms of service delivery and citizen satisfaction.

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Besides, the harmonization of government e-services has also transformed the way public services are delivered in Kenya. Platforms such as the e-Citizen portal have transformed how citizens interact with government services to make them more accessible and convenient. Automation of manual processes has improved efficiency significantly, with the time taken to process various applications and requests significantly minimized. This streamlining of the services has resulted in fewer delays and better outcomes for the citizens, gaining increased trust in public institutions (Mutua & Kinyua, 2023). Digitalization of core services like business registration, passport issuance, and tax payment has increased transparency and accountability in government bodies.

Secondly, modernization has also promoted a culture of continuous improvement in government institutions. Organizations are more and more turning to changing their operating models, introducing new technology, and enhancing service delivery in response to shifting expectations from citizens and markets. This transformation toward a more responsive and proactive organizational culture has itself become a key force driving improved performance and innovation. For instance, institutions are now conducting regular technology assessments to ascertain where they require capacity development and investing in capacity-building programs for equipping employees with the digital competence they require (Mwangi & Okello, 2021).

Modernizing also lends itself to better performance measurement and accountability. With the use of real-time data capture and analytics, organizations are able to monitor KPIs, monitor strategic goal achievements, and evidence-informed decision-making (Chege & Oloko, 2022). Real-time data guarantees that resources are utilized in the most optimal way as well as enabling immediate corrective action when performance shortfalls are identified. Furthermore, digital platforms are also utilized in enhanced stakeholder engagement in the form of feedback collection, tracking issues, and open reporting.

From a financial perspective, modernization has enabled institutions to optimize revenue collection and the management of costs. Computerized systems of billing, electronic payment systems, and single-screen financial management systems have increased the effectiveness of revenue collection while avoiding leakages and fraud (Ngugi et al., 2022). While automation and improved process design at the same time decreased the cost by decreasing labor costs, transaction times, and errors. Therefore, the majority of government commercial institutions are presently recording improved financial viability and diminished dependence on government subsidies.

Lastly, modernization has put Kenyan government commercial institutions in a position to compete more effectively in regional and foreign markets. By aligning their operations to international levels and capitalizing on digital technologies, the institutions will better be able to deliver more reliable, efficient, and customer-centric services. This competitive advantage is particularly valuable in sectors such as transport, agriculture, and finance, where the foreign companies and private sector enterprises are actively contributing (Omondi & Mureithi, 2024). Institutions that fail to innovate and become modernized risk being overtaken by quicker and more technology-savvy competitors.

In short, modernization is a vital component of turnaround strategies pursued by government commercial institutions in Kenya. Asset replacement replaces outdated infrastructure; technology upgrade allows information-based decision making; and automation streamlines

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processes to maximize efficiency. These modernization methods combined create an atmosphere that sustains innovation, responsiveness, and sustainability. Through the focus on modernization, public commercial institutions are able to prepare themselves for improved performance, competitiveness, and financial resilience.

Performance of Commercial State Corporations

Organizational performance is a multifaceted concept that captures an institution's ability to effectively and efficiently realize its strategic goals. For commercial state corporations, their performance is typically quantified in terms of various different dimensions such as financial viability, operational effectiveness, customer satisfaction, innovation capacity, and human capital productivity (Kaplan & Norton, 2004). Commercial state corporations are unique in that they need to balance both public mandates and commercial requirements—pursuing national development desires while achieving financial sustainability and competitiveness in liberalized economies.

Modernization has emerged as one of the central pillars in enhancing the performance of such corporations. It entails systematic change and investment in digital infrastructure, business process re-engineering, leadership regeneration, automation, and institutional capacity building. According to Barney (1991), sustainable performance is an outcome of strategic implementation that results in a competitive advantage—something modernization is well positioned to achieve under altering circumstances. Enhanced business processes and financial management systems are at the forefront of attempts at modernization. Liang et al. (2018) suggest that organisational success relies on good business as well as human processes. Business-wise, modernization involves the application of enterprise resource planning (ERP) systems, electronic payment infrastructure, real-time monitoring dashboards, and automated service delivery platforms. These apply superior budgeting, cost management, and revenue maximization, all which are crucial for institutional sustainability (Penrose, 1959). In addition, technology customer relationship management, market intelligence systems, and product development through technology help commercial state companies cope with market change and consumer requirements (Porter, 1985).

Modernization also increases the efficiency of operations through lean systems, reduced bureaucratic lag, and improved data-based decision making. Organizations in turn are positioned to streamline processes, reduce duplications, and create stakeholder value. These gains contribute directly to financial performance through reduced operating expense and added revenue streams—two prime indicators of long-term sustainability. Modernization of human resources is equally important. The modernization strategy recognizes that people are strategic assets whose contribution to performance can be optimized by continuous training, incentive pay, and leadership transformation (Pfeffer, 1994). For example, today's performance management systems based on real-time data and continuous feedback improve employee engagement and strategic goal alignment. Positive organizational culture, accompanied by strong and visionary leadership, boosts the benefits of modernization (Schein, 2010).

The fiscal performance of the commercial state corporation is typically measured through indicators of profitability, return on investment, and market growth. Revenue, service quality, and spread are indicators of not only responsiveness to modernization but also long-term planning. Profitability indicates, though, successful conversion of resources to value—something which is improved with modernization through integrating digital modes of work

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and reducing process wastage (Barney, 1991). Empirical evidence verifies the drastic impact of modernization. For instance, Johnson et al. (2017) found that the adoption of digitization and automation increased revenue collection significantly and reduced operating costs in Kenyan state corporations. Similarly, restructuring governance mechanisms—through leadership renewal, performance-based contracts, and decentralized decision-making—was associated with enhanced accountability and operational flexibility (Kotter, 1996). It has been crucial in enhancing customer satisfaction, organizational responsiveness, and institutional transparency by investing in ERP systems, automated service delivery, and ICT infrastructure (Teece, 2018).

Repositioning of the market is also facilitated by modernization. Revitalization of a brand, strategic alliances, and service diversification have enabled companies to create new markets and become more competitive (Kiarie, 2018). These repositioning possibilities are founded on current data analysis, live customer feedback mechanisms, and web-based marketing platforms—all core products of modernization. However, the impact of modernization is tempered by external environmental contingencies. Political pressures, policy changes, and regulatory settings may accelerate or slow down efforts in modernization. For instance, frequent changes in government leadership or unclear regulations can hinder processes of implementation (North, 1990). Macroeconomic problems—such as inflation or uncertainty regarding exchange rates—also slow down modernization by constraining fiscal space and increasing operational risk. Availability of qualified staff, access to capital, as well as institutional ability, also influence the efficacy of modernization programs (Ali & Anwar, 2021).

In general, modernization is a strategic need for enhancing the performance of Kenya's commercial state corporations. Through investments in technology, human capital, and organizational procedures, modernization increases financial viability, operational effectiveness, as well as customer responsiveness. However, success will depend on a complex understanding of the broader environment and coordination with modernization activities and institutional capacity. As Kenya works towards the formulation of a digital economy as per its Vision 2030 and Digital Master Plan 2022–2032, state corporations' modernization will be critical to realizing inclusive, effective, and competitive public service provision. These results offer valuable insights to policymakers, managers, and academics who wish to restructure public enterprises and attain Kenya's socio-economic transformation (Dymitrowski & Mielcarek, 2021).

RESEARCH METHODOLOGY

Descriptive research design was applied in this study to explore the influence of financial management on the efficiency of SOEs in Kenya. Descriptive designs are appropriate for studying real organizational life phenomena without intervening in variables, allowing the researcher to observe and interpret existing trends (Saunders, Lewis, & Thornhill, 2019). The format facilitated the collection of both quantitative and qualitative data, supporting an in-depth understanding of financial practices and their effect on performance (Bryman, 2020; Mugenda & Mugenda, 2020). The study was guided by a postpositivist research philosophy that emphasized empirical inquiry and the understanding that context and observation define knowledge (Creswell & Creswell, 2017). The researcher, using this philosophy, could examine

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systematically the complex relationship between financial strategies and organizational performance in SOEs (Wan, 2022). The sample was strategic-level managers in Kenya's 34 commercial state corporations, with each organization contributing seven executives, totaling 238 potential respondents (Parastatals Report, 2018). The key informants were chosen using purposive sampling, while stratified random sampling enabled representative selection. A sample of 148 was determined. The tool for collecting data was structured self-administered questionnaires, chosen for simplicity, anonymity, and ability to get standardized responses (Draper et al., 2018).

RESEARCH FINDINGS ANALYSIS AND DISCUSSION

This section presents the results of the study, with specific focus on the contribution of modernization in the target organizations. It examines how modernization, as the adoption of new technologies, systems, and progressive management practices, has been measured and validated with the research instrument. This section explores the impact of modernization on organizational performance through descriptive and inferential analysis, hypothesis testing, and statistical modeling, culminating in an elaborate discussion of the findings.

Descriptive Statistics

Table 1: Modernization Central Tendency Measures

Statement	Mean	Median	Mode	Skewness	N
The firm has upgraded the aging and inefficient assets.	3.50	4.00	4	0.399	27
To prevent productivity decline, the Company is constantly planning for timely equipment replacement.	3.59	4.00	4	-0.371	27
Production has increased as a result of prompt asset replacement.	4.30	4.00	4	-0.245	27
The corporation's prompt asset replacements efforts contributed to the achievement of the turnaround.	3.79	4.00	5	-0.550	27
The Company has chosen innovations that are appropriate for the situation	3.59	4.00	4	-0.556	27
Technology advancement has been simplified to match the intended proficiency.	3.59	4.00	4	-0.851	27
Constant technological advancement has secured increased operational efficiency for the firm.	4.30	4.00	4	-0.642	27
Effectiveness in the turnaround is a reflection of the Company's ongoing technological advancement.	3.99	4.00	5	-0.487	27

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The descriptive statistics presented in Table 2 provide insights into the central tendency measures associated with modernization efforts within government commercial institutions in Kenya. These measures encompass various aspects of modernization, including asset upgrades, equipment replacement, and technological advancements, and their impact on organizational performance and turnaround.

The mean values across the dimensions of modernization indicate a generally positive perception and assessment of modernization initiatives within the institutions. The mean scores range from 3.39 to 4.30, suggesting an overall favorable view of the modernization efforts. These mean values reflect a consensus among participants that modernization has been beneficial in upgrading assets, enhancing operational efficiency, and contributing to the achievement of the turnaround.

The median values further support the positive perception of modernization, with most dimensions having a median score of 4.00. This indicates that the middlemost response falls within the category of agreement or strong agreement with statements related to modernization. Additionally, the mode values, representing the most frequently occurring response, align closely with the median and mean values, indicating a consistent pattern of responses across participants.

The skewness values in the modernization central tendency measures show a mix of slightly positive and predominantly negative skewness, indicating general favorability towards the company’s modernization efforts. Positive skewness is minimal, appearing only in the upgrading of aging assets (0.399), suggesting that some respondents rated this aspect below the average, but overall ratings are not heavily dispersed on the lower end. Most other items have negative skewness values, ranging from -0.245 to -0.851, implying that respondents rated aspects like prompt asset replacement, alignment of technology advancements, and increased operational efficiency relatively high, with fewer low ratings.

The descriptive statistics suggest that modernization initiatives within government commercial institutions in Kenya have been largely successful in achieving their objectives. These initiatives have led to the upgrading of aging and inefficient assets, timely equipment replacement, increased production, and enhanced operational efficiency. Furthermore, modernization efforts have played a crucial role in the turnaround of these institutions, contributing to increased effectiveness and organizational performance. The positive perception and assessment of modernization underscore its importance as a strategic intervention to address organizational challenges and drive performance improvement within government commercial institutions.

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Dispersion Measures

Table 2: Modernization Dispersion Measures

Statement	Std. Deviation	Variance	Range	N
The firm has upgraded the aging and inefficient assets.	1.127	1.269	3	27
To prevent productivity decline, the Company is constantly planning for timely equipment replacement.	1.285	1.651	4	27
Production has increased as a result of prompt asset replacement.	0.461	0.213	1	27
The corporation's prompt asset replacements efforts contributed to the achievement of the turnaround.	1.255	1.574	4	27
The Company has chosen innovations that are appropriate for the situation.	1.29	1.665	4	27
Technology advancement has been simplified to match the intended proficiency.	1.285	1.651	4	27
Constant technological advancement has secured increased operational efficiency for the firm.	0.461	0.213	1	27
Effectiveness in the turnaround is a reflection of the Company's ongoing technological advancement.	1.272	1.619	4	27

Table 2 presents the dispersion measures for various aspects of modernization within government commercial institutions in Kenya. These measures shed light on the variability or spread of responses among participants regarding different facets of modernization efforts undertaken by these institutions.

The standard deviation (Std. Deviation) indicates the average extent of deviation of individual responses from the mean. A higher standard deviation suggests greater variability among responses, while a lower standard deviation indicates more uniformity. In this table, the standard deviation values range from 0.461 to 1.285. The highest standard deviation values are observed for the second, fourth, fifth, sixth, and eighth variables, suggesting relatively higher variability in participants' perceptions regarding the effectiveness and impact of these aspects of modernization.

The variance measures (Variance) complement the standard deviation by quantifying the dispersion of responses around the mean. Variance values represent the squared deviations of individual responses from the mean. Higher variance values indicate greater dispersion among responses. In this table, variance values range from 0.213 to 1.665. The highest variance values correspond to the second, fourth, fifth, sixth, and eighth variables, consistent with the pattern observed in the standard deviation.

The range provides a straightforward measure of dispersion by calculating the difference between the highest and lowest values of responses for each aspect of modernization. A wider

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range suggests greater variability among responses, while a narrower range indicates more uniformity. In this table, the range values range from 1 to 4, with the highest range observed for the second, fourth, fifth, sixth, and eighth variables, indicating a broader spread of responses regarding the effectiveness and impact of these aspects of modernization.

Overall, the dispersion measures reveal varying degrees of variability among participants' perceptions regarding different aspects of modernization within government commercial institutions in Kenya. While some aspects exhibit relatively low dispersion, others show greater variability, reflecting the diverse range of opinions and experiences regarding the effectiveness and impact of modernization efforts on organizational performance and turnaround endeavours

Inferential Statistical Findings and Tests of Hypothesis

The Relationship between Modernization and Performance

Modernization Goodness of Fit Model Results

Table 3: Modernization Goodness of Fit Test

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.582[a]	.354	.547	.213

a. Predictors: (Constant), Asset Renewal, Technology Improvement, Business Process Automation

Regression Results for Modernization on Performance

Table 4: Modernization Regression Results

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	-.114	.124		-1.150	.126
	Asset Renewal	-.414	.059	-.826	-2.411	.000
	Technology Improvement	-.112	.018	-.344	2.434	.000
	Business Process Automation	.217	.074	.374	1.119	.000

a. Dependent Variable: Organizational Performance

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Hypothesis One

H_{01}: There is no statistically significant relationship between modernization initiatives and the performance of government commercial institutions in Kenya.

The results of the regression analysis in Table 4 evidently indicate the existence of a statistically significant relationship between modernization and organizational performance within government commercial institutions in Kenya. All the predictor variables of asset renewal, technology enhancement, and business process automation recorded p-values less than the 0.05 level, thus supporting the rejection of the null hypothesis (H_{03}) that modernization does not have a statistically significant influence on performance. These findings point to the significant role of modernization in shaping organizational outcomes, yet the direction and magnitude of the effects vary across the different modernization dimensions.

Asset renewal was strongly negatively related to organizational performance ($\beta = -0.414$, $p = 0.000$), indicating that, while the renewal of physical assets is intended to reinforce institutional capacity, it can also strain financial and operational capacities in the short term. This finding is in line with the prior empirical research contending that capital-intensive modernization initiatives often impose short-run burdens that can detract from immediate performance outcomes (Hamel & Prahalad, 2013). The negative impact may be attributable to the high investment costs, the production disruption during the process of renewal, and the lead time required for new assets to be fully integrated into organizational work flows. These changeover challenges highlight the need for phased implementation strategies and careful resource planning to minimize adverse effects on performance.

Technological upgrading also showed a statistically significant negative relationship with performance ($\beta = -0.112$, $p = 0.000$). This is consistent with empirical findings by Jeyavelu (2014), who noted that technological upgrading in public organizations, while necessary, has a tendency to require overarching change management, training, and adjustment before benefits are realized. The negative coefficient can capture implementation challenges like employees' resistance, poor training, or integration problems, which momentarily decrease efficiency. The results highlight that initiatives towards technology improvement should be managed strategically, underpinned by the alignment with institutional capacity and readiness in order not to disrupt operations and to allow them to reach their full long-term positive potential.

Business process automation, however, had a positive and statistically significant impact on performance ($\beta = 0.217$, $p = 0.000$). This means that automating routine and repetitive tasks improves efficiency, reduces errors, and accelerates workflow, which directly and positively impacts organizational outcomes. This result is consistent with theoretical frameworks of the benefits of automation for operational efficiency (Davenport & Short, 1990). It also mirrors more recent empirical studies in the public sector, demonstrating that well-implemented process automation can yield rapid and sustainable performance gains (Mergel, 2016). The estimated regression equation ($Y = -0.114 - 0.414X_1 - 0.112X_2 + 0.217X_3$) in Table 4.22 illustrates the fascinating dynamics of modernization efforts. While asset renewal and technology upgrading are prone to introduce transition issues and short-run performance deterioration, business process automation always contributes to performance enhancement. Such a nuanced finding attests to the complexity of modernization, where different elements exert distinct influences depending on implementation strategies, organizational contexts, and institutional capacities.

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These observations are aligned with the broader modernization theory, which recommends the sequential and strategic procurement of new technologies and assets to stimulate sustainable institutional expansion (Rostow, 1960). Hamel and Prahalad (2013) also highlight that modernization initiatives should be direction-driven and aligned with organizational competencies to prevent performance gaps. Jeyavelu (2014) also highlights the necessity of addressing the human and operational aspects of modernization to reap its dividends fully. The contingent effects observed in this study confirm that modernization is not inherently good or bad but is strongly dependent on how it is planned, executed, and maintained. In Kenya's public sector, where state commercial institutions are confronted with limited budgets, inherited infrastructure, and evolving mandates, such observations have operational significance. They recommend that policymakers and managers take into account that while asset renewal and technological upgrading are essential to long-term competitiveness, they must be traded off against short-term operating impacts. Moreover, emphasis on business process automation may yield earlier returns by rationalizing existing processes and optimizing service delivery. Policymakers and managers should thus work towards a differentiated approach to modernization centered on capacity building, stakeholder coordination, and phased implementation to deliver sustainable performance improvements. Briefly, the results in Table 4 confirm that modernization significantly affects organizational performance but with differential effects on its dimensions. The results contribute to the growing literature on public sector modernization by illustrating the merits of tailor-made approaches and careful management of change. Government departments that aim to enhance performance through modernization need to focus on optimizing the advantages of automation while surmounting the initial challenges of asset replacement and technology refresh in order to attain long-term institutional growth and efficiency.

CONCLUSIONS OF THE STUDY

Modernization is at the heart of organizational renewal in the 21st century, especially for public institutions that are grappling with complex challenges and increased expectations from citizens. Modernization involves deliberate upgrading of systems, technology, processes, and attitudes to enhance efficiency, transparency, and responsiveness. In Kenya, modernization is no luxury—it's an urgent need to make public institutions relevant, competitive, and capable of enabling inclusive national development.

The study reaffirms that modernization, when combined with restructuring, innovation, and repositioning, is an effective arsenal of tools for organizational turnaround. As innovation spurts creativity and future-thinking, restructuring enables the placing of modern systems and being quick about it. Repositioning enables institutions to be adaptive to evolving public needs and policy priorities. But modernization is the final facilitator, basing these activities on technological and operating improvements.

Effective modernization depends on committed leadership, cross-functional collaboration, cultural adaptability, and strategic direction. In Kenyan public institutions, this transformation must overcome barriers such as bureaucratic opposition, resource limitations, and legacy systems. Nevertheless, through having the right vision and stakeholder engagement, modernization can enable institutions to enhance service delivery, enhance performance, and

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facilitate socio-economic development. The way forward is ultimately embracing modernization as the strategic driver of sustainable institutional renaissance.

RECOMMENDATIONS OF THE STUDY

The study recommends that modernization be adopted as a priority strategy by government business institutions in Kenya as a way of improving institutional performance and long-term relevance. Modernization should go beyond the adoption of new technologies to encompass the transformation of systems, processes, and human capacities.

Organizations should intentionally integrate digital tools and smart technologies that align with their operational goals. The introduction of the tools should be succeeded by comprehensive training programs to build digital literacy and ensure that workers can utilize new systems in an optimal way. The process of modernization, led by objectives, must be paired with concrete service delivery outcomes, ensuring that technology bolsters efficiency, transparency, and responsiveness.

In addition, modernization requires regular renewal of outdated infrastructure and automation of standard administrative functions to free up time and resources for more strategic endeavors. Institutions must also invest in continual capacity building and maintenance of systems to avert reduction of performance over time.

Finally, the modernization process should be inclusive, participatory, and sustainable. Stakeholder involvement in all stages—from needs analysis to implementation—ensures greater buy-in, reduces resistance, and fosters a culture of innovation and adaptability. By embracing modernization wholeheartedly, Kenyan public institutions can foster operational excellence, respond to rising public expectations, and support national development ambitions.

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