HUMAN RESOURCE INFORMATION SYSTEMS, TOP MANAGEMENT COMMITMENT AND ORGANIZATIONAL PERFORMANCE OF COMMERCIAL STATE CORPORATIONS IN KENYA

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university.

Signature…… Date…….

Ann Gaceri Kaaria

This thesis has been submitted for examination with our approval as university supervisors.

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DEDICATION

To all the Human Resource Professionals and future researchers.

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ABBREVIATIONS AND ACRONYMS

AST	Adaptive Structuration Theory
CBA	Cost Benefit Analysis
CSC	Commercial State Corporations
DSL	Digital Subscriber Line
ERP	Enterprise Resource Planning
GOK	Government of Kenya
HCIM	Human Centered Information Management
HR	Human Resources
HRH	Human Resource for Health
HRM	Human Resource Management
HRIS	Human Resource Information Systems
HRSRM	Human Resources Security Risk Management
ICT	Information Communication Technology
IM	Instant Messaging
IPPD	Integrated Personnel and Payroll Database
IT	Information Technology
IS	Information Systems
ISO	International Standards Organization

KWHIS	Kenya Workforce Health Information System
KII	Key Informant Interviews
NACOSTI	National Commission for Science, Technology and Innovation
ROI	Return on Investment
ROK	Republic of Kenya
SAAS	Software as a service
SC	State corporations
SEM	Structural Equation Modeling
SPSS	Social Package for Social Sciences
TAM	Technology Acceptance Model
TRA	Technology Readiness Assessment
VUCA	Volatility, Uncertainty, Complexity and Ambiguity

DEFINITION OF TERMS

Accuracy for Information Technology: This denotes the correctness, thoroughness, and legitimacy with which information is proffered. (Al-Batashil & Dattana, 2019).

Budgetary allocation: This refers to the sum of expenditure apportioned to all spending lines (Jaafreh, 2017).

Communication: This is described as the practice of sharing ideas, opinions and information amongst employees in a company (Hamid, 2019).

Compatibility: This is the ability of two information systems to perform activities together without altering any services. Attuned software bids employ similar data layouts (Cepeda & Avias-perez, 2019).

Cyber security risk assessment: This is the process of identifying susceptibilities that impend systematic business operations and, consequentially a firm's repute/ standing. Assessment of risks in cyberspace boost general cyber security mien aids in shielding endpoint devices, as well as curtail possible injury from explicit threats/ dangers (Bilgic, 2020).

Data completeness: This denotes the fullness, wholeness, or inclusiveness of the data (Ankarah & Sokro; Azemi, Zaidi & Hussin, 2017).

Employee Satisfaction: This expresses how gratified or satisfied employees are with their professions/occupations, employee practice, and the business establishments they work for (Gupta, 2017).

Financial resources: These are funds that an organization obtains to finance its investments and present/current and recurrent activities (James, Witten, Hastie, & Tibshirani, 2017).

Functionality: This as a feature of software quality that discusses all and detailed/in-depth proficiencies/knacks of a computer system (Al-Batashil & Dattana, 2019).

Human Resource Information System (HRIS): This is a system used to assemble, record, store, examine, analyze and repossess data concerning a firms' human resources (Gomes & Maditheti, (2017); Aunga & Bichanga, 2015).

ICT Capability (Information Communication Technology Capability): This is a firm's capacity to recognize information technology organizations' desires, to install IT to ameliorate business entity processes more affordably, as well as deliver long-term sustentation and backing for information systems. It can also be defined as the capabilities to leverage diverse information technology resources for indiscernible paybacks as well as a firm's capacity, under its information technology chattels and knowledge aimed at fashioning organizational and/or business value/importance (Karimi, Somers & Bhattacherjee, 2007; Kaygusuz, Akgemci & Yilmaz, 2016).

Information Technology (IT) Human Resources: These are employees and their communal skills, capabilities, and knowledge, combined with their capacity to use them for the betterment of the employing organization in the

acceptance, utilization, and utilization of information technology (Chineke, & Kapoor, 2018).

Information systems security (INFOSEC): This can be described as the practices, processes, procedures, or approaches aimed at safeguarding the confidentiality, availability, and integrity of information in modern organizations globally (Paige, 2016; Laudon & Laudon, 2014).

Organizational Performance: This is the integration the definite outcomes, output, or accomplishments of all firms and/or business entities as measured against its projected outcomes or accomplishments (objectives or goals). It can also be described as the realization or fruition of an organization's initiatives or projects to a conclusion as envisioned in the organization's strategic plans (Saarist, 2016; Mjomba & Oyagi, 2021).

Policy development: This is the formulation of the bulk of principles, philosophies, doctrines, and rubrics of behavior that administrate an enterprise in building its relationship with its employees (Fernandes, Ferreira, Veiga, & Marques, 2019).

Profitability: This is a ratio of a firm's profit relative to its expenditures (Ibrahim, Ali, & Bleady, 2018).

Programming: This is described as a process that software specialists/experts adopt in writing codes that initiates how computer systems, applications, and/or software package realizes their stipulated goals (Aggarwal & Kappor, 2012; Cepeda & Avias-perez, 2019).

Rankings: These describe the process in which diverse businesses, firms or products are itemized, enumerated, or tiered, in order grounded/centered on explicit criteria.

Surveillance: This can be described as the process of monitoring computer bustles or activities and data warehoused in a processor or data diffused in computer grids for example the internet (Awad & Fairhurst, 2018; Biligic, 2020).

Timeliness in Information Technology: This describes the time expectancy for ease of access, obtainability as well as the readiness of information (Davarpanah & Mohamed, 2017).

Top Management Commitment: This is the extent to which top-level/ strategic managers appreciate the need, benefits, and significance of information systems function as well as their involvement in information systems undertakings as such the adoption and execution of information systems (Kashire, 2018).

ABSTRACT

While performance can be viewed as an intricate and multidimensional concept that necessitates a well and elaborate strategic focus in its management in organizations globally and commercial state corporations are not an exception, all human resource management functions aim to increase organizational effectiveness through proper utilization of the available resources. The general objective of the study was to assess the relationship between HRIS, Top Management Commitment and Organizational Performance in Commercial State Corporations in Kenya. Five specific objectives embraced included examining the influence of ICT capability on organizational performance in commercial state corporations in Kenya, determining the influence of HRIS system quality on organizational performance in commercial state corporations in Kenya, assessing the influence of HRIS information quality on organizational performance in commercial state corporations in Kenya, determining the influence of HRIS information security on organizational performance in commercial state corporations in Kenya and examining the moderating effect of top management commitment on the relationship between human resource information system and organizational performance in commercial state corporations in Kenya, founded the basis of this research study. The theoretical review of the study was built on the adaptive structuration theory, dynamic capability theory, contingency theory, systems theory, diffusion for innovation theory, and the Technology Acceptance Model. Using a descriptive census method, the population was drawn from 55 Commercial State Corporations in Kenya. The units of observation were the managing directors or chief executive officers, directors of human resources, and deputy directors of human resources. The study used both qualitative and quantitative methods to collect primary and secondary data. Data were collected from 110 respondents, yielding a response rate of 74.83%. Questionnaires and interviews were used to collect data for the study, which was supplemented by secondary sources. Following pilot testing and the necessary modifications to the questionnaires, the questionnaires were subjected to face, content, and reliability tests before being administered to respondents. An examination of the main statistical hypothesis was guided by tests for normality, heteroscedasticity, linearity, and multicollinearity. SPSS version 23.0 was used to analyze data using descriptive analysis, factor analysis, Pearson correlation, analysis of variance (ANOVA), and regression. The results showed that human resource information systems had a positive and significant influence on organizational performance of Commercial State Corporations in Kenya. The study also revealed that the moderating effect of top management commitment had a positive and significant influence on the acceptance and utilization of human resource information systems culminating to enhanced organizational performance. According to the study, Commercial State Corporations in Kenya should utilize HRIS with the help of top-level management to the fullest extent possible. The study empirically developed a model that links HRIS, Top Management Commitment and Organizational performance of Commercial State Corporations in Kenya, while also accepting top management commitment as a moderating variable in the relationship between HRIS and Organizational performance of Commercial State Corporations in Kenya. Furthermore, the study expands on the utility/value and usefulness of Adaptive Structuration Theory, Dynamic Capabilities Theory, Contingency Theory, Systems Theory, Diffusion for Innovation Theory, and Technological Acceptance Model in explaining the relationship between HRIS, Top Management Commitment and organizational performance of Kenyan commercial state corporations.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Organizations in the twenty-first century face numerous challenges as a result of poor financial management, as well as environmental pressures and hyper-competitive situations modeled by digital insurgency and globalization (Mir, Hassan, and Qadri, 2014; Yeung and Brockbank, 2015; Kassim, Ramayah, and Kurna, 2012). Technological advances in artificial intelligence and computerization of critical human resource services have not eliminated the need to engage and retain a well-equipped workforce in a competitive labor market. Furthermore, the effects of the VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business world have increased the levels of hyper competition in today's organizations. It is described as fast-changing, with a focus on heterogeneous workforces, a challenging work environment, impulsive and difficult customers. The VUCA archetype is associated with changing business environments, varying workforce requirements, and volatile customer expectations.

As a result, human capital management (HRM) should concentrate on overcoming business obstacles related to essential elements in the business world, thereby achieving a company's sustainable competitive edge through capacity-building initiatives. Thus, human capital managers need to cultivate definite strategic plans that cater to the new market conditions in addition to enhancing organizational strategic capability through knowledge management and organizational learning initiatives (Hamid, 2019; Davarpanah and Mohamed, 2019). Therefore, business establishments are adopting various positioning strategies to remain relevant. This makes the acceptance and utilization of technology paramount in this quest. The economic theory also recognizes and appreciates the huge role played by technology in driving the economics of any given country (Mandelson, Straw, and Glennie, 2012; Arefin and Hosain, 2019).

Therefore, information technology innovation and advancement through Management Information systems have steered the advancement and development of the Human Resource Information System (Noutsa, Kamdjoug & Wamba, 2017; Noe, Hollenbeck, Gerhart and Wright, 2008).Human Resource Information Systems (HRIS) is of profound importance in the management of human capital, owing to the revolution in information communication technology in any knowledge based economy (Anitha & Aruna, 2013; Oyagi & Mjomba, 2021). HRIS forms part of the Management Information Systems that makes available all the pertinent human resource information by integrating it with all HR functions in the quest for business excellence. HRIS, a technology motivated approach to resolving contemporary glitches, molds valuable, unique non-imitable and non-substitutable employees culminating to the founding and implementation of a human resource balanced score card.

Moreover, HRIS is described as a masterpiece of computer application either self-contained or a group of programs, electronic structure information(database), information technology infrastructure (hardware and software) obligated to amass, preserve, manage, diffuse, purvey and utilize data on Human Resource (Parry & Battista, 2019: Mauro & Borges-Andrade, 2020). It is also designated as Human Capital Management software (HCM) or Human Resource software. These configurations are miniature explicit presentations that incorporate distinctive management practices and procedures or a unified corporate management structural design that is executed on a huge scale (Mauro & Borges-Andrade, 2020). In addition, HRIS acceptance, utilization, and usefulness can be expedited through key success elements amongst them executive support and orientation for the acceptance of contemporary and innovative technologies, a well-fashioned business strategy for the execution of disruptive technologies besides the necessary ICT proficiency (Parry & Battista, 2019; Obeidat, 2018).

Al-Batashil, & Dattana, (2019) agrees that the human resource information systems models that define its functionality include the HRIS Success Model that brings together the systems quality, information quality, and easiness in use as well as its usefulness, the HRIS adoption model which captures the human, technological, organizational, and environmental dimensions, in addition to the input-output model (Input subsystems, HRIS database, and the output subsystems). The human dimension outlines the innovativeness of the top management and employee IT capabilities, technological dimension details the IT infrastructure, compatibility, and intricacies of the system, the environmental dimension which highlights competitive force, technology vendor support besides government regulations and support, and the organizational dimension which stipulates the relative advantage, top management support, perceived cost and ratification and validation of the said system (Liang, Xiu, Fang & Wu, 2020; Kluemper, Mitra, & Wang, 2016).Superior comprehensive data, managerial long-term plans, and strategic decisions support systems can be made available through the strategic HRIS at the organizational level (Liang, Xiu, Fang & Wu, 2020; Jani, Muduli & Kishore, 2021). Hasty globalism, consumerism, multiculturalism, hyper-competition, and unmatched technological advancement have contributed to extreme dynamism and complexity in the management of human capital (Parry & Battista, 2019). With these heightened challenges, companies must be innovative enough in response to relentless business threats and pressures as well as lead-ins arising from the vivacious and competitive commercial sceneries globally (Ankrah & Sokro, 2016).

The fast-paced progression in information communication technology (ICT) has become an intentional and strategic resource in the creation of organizational competitive advantage (Liang, et al., 2020: Parry & Battista, 2019). So, the amalgamation of ICT and HCM boosts its strategic contribution, which cultivates organizational competitiveness through inimitable human capital (Talukdar & Ganguly, 2021). All Management Information Systems act as important tools in the achievement of organizational goals (Averbook, 2012; Belz & Peattie, 2012). HR functional unit is developing as a center for information, a partner in business, an agent in facilitating effective change, provider of services, in-house consultant, and cost benefits management measure among others (Kiprono, 2014).

HRIS is therefore an essential standard in rejuvenating the efficiency and effectiveness of organizations in the modern-day as it forms an integral part of any organization (Troshani, Jerram and Gerrard, 2011; Kago, 2014; Yilmaz, Akgemci, & Kaygusuz, 2016). A multifaceted outlook by Al-Dmour et al (2014) operationalized HRIS adeptness as the process of expediting enhancements and progressions by strategic managers hence improving the financial proficiency of companies, intentional decision-making prototypes, acquaintance to information as well as enriched and sustainable competitive advantage. Kluemper, Mitra, and Wang (2016) believe that the future fiscal and strategic advantage of organizations rests with the enterprises that can successfully attract, maintain and develop a diverse workforce in the global competitive market to gain sustainable competitive advantage. Organizations should also balance the resources available to attain the anticipated outcomes of profitability and resilience in the competitive environment (Kago, 2014).

To remain competitive, organizations should embrace technological innovations to enhance their sustainability (Troshani, Jerram, and Gerrard, 2011). Information technology not only enhances the performance of organizations but also acts as a cost-cutting measure. Research has shown that efficacious acceptance and utilization of innovations within the HR functional unit to address these challenges and putting maximum use of the opportunities available can be key determining factors in the realization of the set organizational goals. This is because employees' performance is imperative for the overall success of any given organization. (Bichanga & Aunga, 2015; Gachunga, Muriithi, & Mburugu, 2014). Acceptance and utilization of Human Resource Information Systems (HRIS) are therefore necessary for achieving organizational goals. HRIS is should be fused into information technology to focus on the management of people (Badgi, 2012). Human Resource Information System consolidates computerized employee data into a single data bank. Acceptance and utilization of HRIS hasten administrative work by storing and consolidating employee records which are used regularly to analyze employees' value in the organization and the strategic HRIS which enhances the decision-making process (Warui, Mukulu, and Karanja, 2015; Hameed and Counsell, 2014).

1.1.1 Global Perspective of Human Resource Information Systems

Ahmer (2013) avers that the success of a firm is proportionate to a contemporary knowledge economy and the competency of the Human capital. Therefore, human capital management ought to be enhanced/boosted through creativity, innovations and Information Technology. It is presumed that business establishments not only gain and sustain competitive advantages from the acceptance of information communication technology (ICT) but also utilize it to match other resources. Dery, Grant, & Wiblen, (2009), further indicated that the most efficacious way of running global enterprises is through appropriate application of information technology (IT) in managing human resources. Dessler (2013) agrees that multinationals and global conglomerates are making rational advancements by expanding their company's human resource information systems (HRIS) to other subsidiaries and regional branches. A case in point where the management of Build net, Inc., in United States agreed to computerize and incorporate their discrete HRIS subsystems of applicant tracking, learning, and development as well as wage and salary administration, the company picked MyHRIS from NuView, Inc. which is an internet-based software package/ online solution to address its challenges.

This web-based system encompasses employee salaries and other benefits administration, tracking interviewee applications, curriculum vitae scanning, administration of learning and development, career plans, talent management as well as succession planning. MyHRIS had helped the managers in all of the firm's subsidiaries to evaluate and bring up-to-date more than 200 reports which are inbuilt and include summary terminations and unfilled positions in the organization. The company's management can also gain access to data and control worldwide human capital activities regularly. Parry and Tyson (2011) agreed that the overall outcome of e-HRM against the projected goals and objectives in UK-based firms established that even though the introduction of e-HRM led to increased efficiency, enhanced delivery of services, and normalization with roundabout transformational effects, there was a lack of evidence on increased employee participation in the decision-making processes within the organization. Similarly, a study by the Netherlands government prompted the approval and appreciation of the quality features of the

content as the structure of electronic HRM applications had a meaningful and positive influence on strategic and technical HRM efficiency and effectiveness (Ruël, Bondarouk, & Van der Velde, 2007). This was later emphasized by Parry and Tyson (2011) in their investigation that established that e-HRM has culminated in more strategic decisions. It was not meant to necessarily lessen the process of HR headcount as HR practitioners could be redeployed from doing transactional to advanced strategic HR functions within their business establishments. Further than offering software solutions, business establishments need to invest in HRIS modules improves employee productivity by capturing their diverse capabilities, as well talents (talent mix). Richards-Carpenter (1989), as cited by Olughor (2016), quoted that forty percent of United States corporations had endorsed and invested in HRIS by the 1980s.Instantaneous technological headway made in reference to globalization, volatility, uncertainty, complexity and ambiguity in the business/work milieu has culminated into knowledge leaning units that call for newer and innovative technologies as well as enhanced knowledge management systems (Awad & Fairhurst, 2018).

1.1.2 Regional Perspective of Human Resource Information Systems

Many organizations still rely on sending parcels and other non-automated means of communication. As a consequence, the Human Asset Management function in many African enterprises in various countries has not been very proactive in the utilization of ICT through providing its assimilated services and conveying information effectively (Saaredra, 2010; Okeke-Uzodike & Chitakunye, 2014). Nonetheless, human resource planning has been one of the biggest challenges in the management of human assets for a long time. Reliable, well-timed, and information with minimal errors has over time been insubstantial and easily damaged, thus delaying decision-making meant to improve service delivery (Adeleye, 2011).Sungwa 2021 startlingly affirmed that numerous organizations in Africa are faced with numerous challenges (among them lack of top management support and financial/budgetary constraints) of substituting the traditional human resource management practices with electronic human resource management.

A study done by Osei -Nyame and Boateng (2015) on the Adoption and Use of Human Resource Information System (HRIS) in Ghana also revealed that only 40% of Ghanaian firms have adopted HRIS meaning that much needs to been done to support and facilitate the adoption of the same. It was also apprehended a majority of the companies (that is about 95%) used the manual system in the management of their human resources. These firms included Small and Medium Enterprises as well as limited guarantee business establishment. Many factions in various economies of Africa require up-to-date and accurate data on human resources to support the management of the same. Al Mamary, Shamsuddin & Aziati, (2014) affirm that operational and effective human resources information system (HRIS) help the organizational leadership in responding to crucial policy and management issues that affect the delivery of vital services in many business establishments. An effective, operational, and efficient information system makes sure that production, analysis, dissemination, and usage of dependable and well-timed information by organizational key individuals. This is made possible through an effective decision-making process at various levels of management which is coherent, articulate, and timely in all eventualities (Al Mamary *et al.*, (2014).

1.1.3 Local Perspective of Human Resource Information Systems

In the global-based or centered economy, the socio-economic standards and productivity of businesses, organizations, and institutions of higher learning are highly influenced by the evolution of technology and digital services (Karua, 2017; Awad & Fairhurst, 2018).Cutting-edge technology allied to sentience, responsiveness, and readily available information aids in the establishment and increase in democracies invention, innovation, and production capacity which are significant to the economic growth of any country (Al Mamary, Shamsuddin & Aziati (2014). The Kenyan government's strategic goal is to turn Kenya's economy into a principal place in place of business process outsourcing (BPO) and a worldwide ICT center. This whole idea led to the creation of Kenya's ICT board in 2007 which is in line with Kenya's vision 2030 (Musimba, 2010).

Various actions and initiatives have been taken, to allow the populace to reach maximum technological levels. The government also recognizes IT as a chauffeur towards the empowerment of Kenyans socially and economically (GOK – Ministry of Information 2006). This demanded the formulation and implementation of a National ICT Policy resulting in the ratification and validation of National ICT policy, 2006. Consequently, Human resource information systems have been adopted as the driving force behind the enhanced organizational performance. Muriithi, Gachunga & Mburugu, (2014) affirm that ICT acceptance and utilization in many enterprises have steered value addition in all businesses processes by stimulating the efficacy of transactional services and other administrative activities. Waters *et al.*, (2013) posit that the health sector in Kenya continues to experience various challenges in the management of human resources for health (HRH) including an inadequate integer of competent employees and the distribution of employees in the health sector in various places. To antithesis these tendencies and enhance health service delivery, the Ministry of Medical Services (MOMS) and the Ministry of Public Health and Sanitation (MOPHS) have put in place the necessary strategies to mitigate the challenges faced in the development and management of human resources for health.

An all-inclusive human resources information system (HRIS) to support the function of human resources in the public health sector was implemented by the Ministry of Health. The HRIS, supported by the USAID-funded Capacity Kenya project, was amalgamated with present human resources (HR) and other health sector information systems. Currently, the HRIS is being instituted and inaugurated to cover all healthcare divisions in all counties in Kenya as a way of enhancing service delivery (Ministry of Health [MOH], 2015). Kenya's health professional regulatory agencies and ministry of health through the use of the following platforms, Integrated Personnel Payroll Database (IPPD), Kenya Health Workforce Information System (KHWIS), Regulatory Human Resources Information System (rHRIS), and Human Resource (HR) data systems, have been able to collect, store and retrieve health workforce data needed for proper regulation of the nursing workforce, deployment, payroll management, and other HR management data respectively ("Kenya Nursing Workforce Report, Status of nursing in Kenya", 2012).

It, therefore, follows that in measuring the relationship between HRIS and organizational performance in commercial state corporations in Kenya, the researcher should be guided by amongst others; whether or not there is a need for enacting cost-cutting measures in the HR functional unit by ensuring that there is improved and correctness of HR stored data, service delivery, proper and regular training and other organizational developmental initiatives (Waters *et al.,* 2013).

1.1.4 Human Resource Information Systems and Organizational Performance

The concept of managerial commitment and governance is gaining a novel dimension in the cybereconosphere of the fourth section of the digital insurgency age in which individuals began to understand the information time of life with attention drawn to e-government, e-commerce, Internet of Things (IoT), Cloud Computing as well as Big Data. A major realization of digital acknowledged standards for companies in their quest to arrive at, and attain sustainable competitive advantage is having a well-resourced and competent staff in the cyberspace and info stage, besides exhausting this key managerial resource successfully and proficiently (Noutsa, Kamdjoug, and Wamba, 2017). Firms need an efficacious Management Information System (MIS) which is acquiescent with all business procedures and developments and human resources to be specific, for a speedy and opportune recital for the decision-making process, forecasting, modeling, and managerial processes

Management information system linked with human resources is described as the subsystem of Human Resources Information systems (Yilmaz, *et. al.,* 2016; Kaygusuz, Akgemci, and Yilmaz 2016). Successful HRIS adoption and utilization supported by the top management improves employee productivity at all echelons of management. The implementation phase takes into account the pursuit of a vendor process, planning and alignment endeavors headed by a navigation committee and senior employees from the human resource division), defining and designing, configuration and testing, training and communication as well as utilization and sustainability which is primarily labeled as " going live”.

Rai (2014) avers that organizational performance is the ability of an organization to fulfill the anticipated expectations and needs of the three main stakeholders (owners, employees, and customers). Performance embraces three particular areas of the organization's output. Product market performance (market share and share prices in the stock markets among others), financial performance (profitability and return on investment among others), and product market and shareholder return (value-added economically and shareholder total returns among others) (Noutsa, Kamdjoug and Wamba, 2017; Kiprono, 2014). Mata, Fuerst, and Barney, (2015) affirm that the HRIS contribution to organizational performance includes increasing competitiveness through increment and development of HR operations, generating comprehensive and relevant HRM reports, moving HRM'S functions to strategic human resources management (SHRM), restructuring the entire HRM unit and the chance to utilize HRIS in supporting and enhancing strategic decision-making processes, policy evaluation and amendments and day to day operational issues. HRIS is a fundamental tool in improving organizational effectiveness and performance (Thite, 2013; Aggarwal & Kapoor, 2012).

1.1.5 Human Resource Information Systems, Top Management Commitment and Organizational Performance

Top management or the upper echelon in the hierarchy of management is a level of management that formulates, frames, and expresses policies into objectives, goals, strategies as well as projects aimed at arriving at a shared vision of the future (Oyagi and Mjomba, 2021). They make decisions that affect every employee at the workplace and are exclusively responsible for the success or failure of the organization (Obiefuna, 2014). By their leadership role, corporate executives are also able to ensure that adequate resources are allocated for innovation acceptance. Visible management support and commitment are key success factors in this role. Successful innovations are also linked to an open management style, stating that this can be strengthened by employing communication-related ICT functions (Ifinedo, 2011; Kavanagh, Thite & Johnson, 2012). Acceptance and utilization of HRIS require top management commitment to validate and shove for the acknowledgment and appreciation of HRIS besides other management information systems.

This is because the top executives act as change agents in organizations, so their assurance, commitment, and support go a long way in ensuring that all resistance to change issues are addressed (Bal, Bozkurt & Evtemsir, 2012).

1.1.6 Commercial State Corporations in Kenya

State corporations were initially established by the colonial authority in Kenya in an effort to provide the white settlers with crucial services and initiatives aimed at strategically empowering them economically (Mwithi,2016). However, the state corporations' mission changed after independence. Therefore, the foundation of state corporations was prompted by the government's need to create regional economic balances, speed up socioeconomic development, increase the contribution of its residents to the GDP, encourage locals to be more independent and entrepreneurial, and reassure foreign investors of a favorable investment climate through the establishment of properly registered firms and/or joint ventures (Kabiru, Theuri & Misiko, 2018). In those days, the Kenyan government had the lofty goal of making sure all state-run businesses were successful, effective at serving the needs of the populace, and most crucially, affordable.

State-owned enterprises, according to Njiru (2008), exist for a variety of purposes, including the following: first, to address market failures; second, to pursue social, economic, and political goals; third, to offer high-quality services for the public's health and education; and, fourth, to reallocate funds for the development of Kenya's rural areas (Njiru, 2008). The number of Parastatals in Kenya was estimated by Getuno, Awino, Ngugi, and Mwaura (2015) to be 187, although the Report of the Presidential Taskforce on Parastatal Reforms of 2013 disputes this, citing a total of 262. A state corporation is defined as a body corporate established before or after the effective date of this Act by or under an Act, according to the State Corporations Act, Chapter 446 of the Kenyan Laws. It is also referred to as a company incorporated under the Companies Act of the Laws of Kenya that is not wholly owned or controlled by the Government or by a state corporation, a building society established in accordance with the Building Societies Act, and a co-operative society established under the Co-operative Societies Act.

According to the Guidelines on Terms and Conditions of Service for State Corporations (2017), public enterprises, regulatory organizations, executive agencies, public universities, tertiary education/training institutions, and research institutes are among the functional categories of state corporations. To carry out the objectives and initiatives set forth by the Kenyan government for socioeconomic development, State Corporations are established. Their founding ideologies include functional independence, manageability, and an emphasis on outcomes, value for money, increased accountability, and openness in providing Kenyan citizens with services that are deemed difficult to obtain in the conventional government bureaucracy. The departments in these organizations are distinct from those in other government ministries. This falls under their conception, independence, orientation toward business and quasi-business, self-accounting philosophies, and accountability ("Report of the Presidential Taskforce on Parastatal Reforms", 2013).

1.2 Statement of the Problem

Organizations in the twenty-first century are under intense pressure to reduce the organizational burden that comes with increased operating costs while meeting the needs of their customers and increasing their level of competitiveness (Opiyo & Abok, 2015). Disturbing organizational failures have occurred both locally and globally. Structural and administrative failures have resulted in significant financial losses for shareholders, as well as extensive suffering for the most important stakeholders, as a result of job loss, poor organizational reputation, and frequent court proceedings (Mose, 2017). According to the 2013 Presidential Parastatal Reforms Report, there was a significant decline in the performance of commercial state corporations, as evidenced by their financial reports, which highlighted 21%, 23%, and 24% declines in performance in 2011/2012, 2010/2011, and 2008/2009 respectively. Studies by Mose (2017) and Murithi (2016) also affirmed that CSCs in Kenya have been performing abysmally due to ineffective leadership, governance, and management practices.

Other signs of underperformance included dwindling levels of employee satisfaction, a performance management charter that was inappropriately linking individual performance to institutional performance as well as State Corporations' performance to national development goals, along with the institution's ability to recruit, invite, and retain skill sets necessary to drive performance (RPR, 2013; Kabiru, Theuri & Misiko, 2018). The upshot of this was an increase in stock debt, which is the total amount of debt a nation owes to all lenders, as well as a decline in shareholder confidence in CSC investments. The majority of empirical studies (e-HRM) have ignored the infrastructure and design aspects of HRIS and concentrated on the core functions of the human resource value chain (Ahmed, 2013; Bichanga &Aunga, 2015; Midiwo, 2015).

The impact of HRIS on the performance of public universities (Midiwo, 2015), the adoption of HRIS innovations in Pakistani organizations (Ahmer, 2013), and the impact of HRIS usage on employee performance (Kaygusuz Akgemci and Yilmaz, 2016) are a few examples of empirical studies that have concentrated on direct relationships: however, the HRIS-organizational performance link can be influenced by other factors among them top management commitment with communication, budgetary allocation, and policy development as well as execution (Mata, Fuest & Barney, 2015; Bamel *et.al*, 2014; Kavanagh, Thite & Johnson, 2012). In the Kenyan Context, a plethora of research surveys have been conducted on the organizational performance in Kenyan state corporations, such as Midiwo's (2015) study on the influence of human resource information systems on performance in Kenya public universities and Mukulu, Warui, & Karanja's (2015) study on the influence of management participation on the adoption of HRIS in Teachers Service Commission (TSC) operations in Kenya. This scenario prompted the researcher to evaluate the influence of HRIS, Top Management Commitment and organizational performance in Kenyan Commercial State Corporations.

1.3 Objectives of the Study

The study was guided by both a general and specific objective.

1.3.1 General Objective

The general objective of this study was to assess the Influence of Human Resource Information Systems on Organizational Performance of Commercial State Corporations in Kenya as well as the moderating effect of top management commitment on this relationship.

1.3.2 Specific Objectives of the Study

The study was guided by the following specific objectives:

1. To examine to the influence of ICT capability on Organizational Performance of Commercial State Corporations in Kenya
2. To determine the influence of HRIS System Quality on Organizational Performance of Commercial State Corporations in Kenya
3. To assess the influence of HRIS Information Quality on Organizational Performance of Commercial State Corporations in Kenya
4. To establish the influence of HRIS Information Security on Organizational Performance of Commercial State Corporations in Kenya
5. To evaluate the moderating effect of Top Management Commitment on the relationship between Human Resource Information System and Organizational Performance of Commercial State Corporations in Kenya

1.4 Hypotheses

H_{01}: ICT Capability has no influence on Organizational Performance of Commercial State Corporations in Kenya.

H_{02}: HRIS System Quality has no influence on Organizational Performance of Commercial State Corporations in Kenya.

H_{03}: HRIS Information Quality has no influence on Organizational Performance of Commercial State Corporations in Kenya.

H_{04}: HRIS Information Security has no influence on Organizational Performance of Commercial State Corporations in Kenya.

H_{05}: Top Management Commitment has no moderating effect on the relationship between Human Resource Information Systems and Organizational Performance of Commercial State Corporations in Kenya.

1.5 Justification of the Study

Commercial State Corporations are critical to Kenya's economic growth. To improve service delivery and performance, these state corporations must digitize/computerize their activities. Automation of human resource functions to improve performance is thought to be an early trend in refining efficiency, effectiveness, and employee productivity. The current research study will aid in understanding the past and current recognition and appraisal of HRIS in both the private and public sectors globally. The following people will benefit from this research:

1.5.1 Policy Makers

The Kenyan government will benefit greatly from this research study's understanding of the necessity, advantages, and significance of investing in HRIS to support performance improvement and upholding high standards. Policymakers and resource allocators in the public sector will also benefit greatly from this study's understanding of these issues. A rise in productivity can be attributed to efficient job analysis procedures, training and development plans, the provision of performance-related feedback through performance evaluations, and the maintenance of efficient communication throughout all governmental entities. This is made possible by the organizational level use of an HRIS system, which provides sufficient and high-quality data that can be used to make decisions. The government will be able to plan for human resources to meet its strategic and operational objectives with the help of the inter- and intra-organizational acceptance and utilization of GHRIS.

1.5.2 Human Resource Managers

The study will benefit the state corporations in Kenya in boosting the acceptance and utilization of human resource information systems which ultimately leads to increased productivity of the employees. It also provides to a favorable working environment in which the workforce can develop and make maximum use of their skill sets to achieve their individual as well as organizational goals.

1.5.3 Future Researchers

Understanding of the influence of HRIS on Organizational Performance of Commercial State Corporations in Kenya will form the basis for future studies in Human Resource Management Information Systems and a source of literature review for future scholars.

1.6 Scope of the Study

The research study assessed the connection between HRIS, Top Management Commitment, and Organizational Performance of Commercial State Corporations in Kenya. Chief executive officers, human resource directors, and deputy human resource directors made up the observational group. The analysis was restricted to the 55 Kenyan Commercial State Corporations (21 CSCs with strategic duties and 34 pure CSCs) (Parastatal Presidential Reforms Report, 2013). The study was conducted between October 2016 and January 2020. From the investiture to the conclusion of the research project, when data was gathered, evaluated, and conclusions were interpreted to highlight the need for the study, a sequential order of trials and occurrences was followed. Due to their substantial influence on the nation's economic growth through the achievement of social and economic goals, the study concentrated on these firms. Fiscal and non-fiscal discipline, which includes increased tax and non-tax receipts, disbursement on compensation and stipends and allowances, interest remittances, and a decrease in subsidies, is used to measure these.

Additionally, they support the accomplishment of full employment for the populace, revitalizing efficiency and effectiveness in the public sector, freedom, security, and equity, as well as price stability for sustainable growth. Commercial State Corporations encourage market competition while safeguarding Kenyan consumers from unfair competition (Kamaara, 2014). During the course of the study, the researcher had access to these state corporations, which are dispersed around the nation in different geographic regions. Organizational Performance was the dependent variable, Top Management Commitment was the moderating variable, and there were four independent factors included in the study (ICT capability, HRIS system quality, HRIS information quality, and HRIS information security). The outcomes were seen to be a sign of the main problems that commercial state firms in developing economies currently face.

1.7 Limitations of the Study

Limitations of any research study form part of the conditions that are afar the researcher's rheostat and put restrictions on the study deductions and their application to the prevailing situations thereto (Mose, 2017). Many limitations were experienced by the researcher during the study, first, access to information as it was very difficult given the nature of the facts that the researcher was in search of. Some of the central literal records were very difficult to access due to the bureaucratic nature of state corporations in Kenya. To reach the prospective respondents, the researcher sought permission from the human resource departments. An approval letter was issued by the said department which was a mandatory requirement before the issuance of the questionnaires and conducting interviews. This was also made possible by the research permit attained from National Commission for Science, Technology, and Innovation (NACOSTI). In some instances, the researcher depended on secondary data available on their websites and compared current studies. The correctness of the data collected can only be guaranteed to some extent. Besides, gauging the objectivity of various respondents was tough due to the nature of the data trailed by the researcher. To overcome this constraint the researcher obtained official consent from the university.

Assurance by the researcher that confidentiality of information would be maintained and that data collected would be used for academic purposes only improved the process of data collection.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter intends to help gain an understanding of the relationship between Human Resource Information Systems and Organizational Performance in Commercial State Corporations in Kenya. It entails the theoretical review, conceptual framework, empirical review, and research gaps. The review was to explain the research study concept, which concerns the influence of human resource information systems on organizational performance of Commercial State Corporations in Kenya and specifically ICT Capability, Top Management Commitment, HRIS System Quality, HRIS Information Quality, and HRIS Information Security.

2.2 Theoretical Review

A model and various theories were employed to enrich the understanding of the theoretical background supporting the association between Human Resource Information Systems and Organizational Performance. The study adopted Adaptive Structuration Theory as the anchor theory, Dynamic Capabilities Theory, Contingency Theory, System Theory, Technology Acceptance Model, and Diffusion for Innovation Theory which were deemed relevant to the study.

2.2.1 Adaptive Structuration Theory

Adaptive Structuration Theory (AST) is quickly developing into a compelling theoretical and speculative perspective in academic research on the most cutting-edge and innovative information communication technologies (Jones, & Karsten, 2008). Adaptive Structuration Theory (AST), inspired and motivated by Anthony Gidden's structuration concept, is one of the most significant theories for effective and active group communication (DeSanctis and Poole, 1994; Choi, Dooley & Rungtusanatham, 2001).

Marshall Scott Poole and Gerardine DeSanctis developed AST in 1994 based on the ideas, principles, and viewpoints of Robert McPhee, David Seibold, and Anthony Giddens (Chin, Gopal, and Salisbury, 1997). They named his theory adaptive because they reasoned that members of groups and teams purposefully acclimate to processes, rules, regulations, and available resources in order to achieve organizational goals since they were certain that followers of numerous groups had an impact on the outcomes of any given activity (Choi, Dooley and Rungtusanatham, 2001). A firm's structural topographies and its relationships with human social agents are currently explained by the duality of structure captured and described in AST.This perspective helps human agents implement cutting-edge technologies and commercial entities' transformational ingenuity. As long as support for current and future research topics is fulfilled, AST also provides human resource management academics and experts with fresh insight into the interactions that occur throughout these inventive ingenuities. For those in human resource management who plan, scheme, evaluate, implement, or handle technology at work, it would be advantageous and helpful (Ajjan, Kumar and Subramaniam, 2016).

Giddens Anthony's idea was developed by DeSanctis and Poole and given the name Adaptive Structural Theory in order to explore how organizations, teams, and businesses interact with information technology. It examines and assesses the technocentric view of how technology is used, highlighting the communal and social traits at the institutional level (Ajjan, Kumar & Subramaniam, 2016). The word "AST" can be used to describe a strategy and an approach that aims to clarify how information technology-related improvements fit into broader organizational change. This theory seeks to comprehend and explain the many structural designs made possible by technological advancements as well as the architectural or structural patterns that emerge when people use technology. Theoretical profundity and productivity are both lacking in Human Resource Information Systems (HRIS) research, according to Wang, Zhou, and Zheng (2022). In light of this, the foundation of this study is the Adaptive Structuration Theory, a theory of human resource information systems implementation developed and built by DeSanctis & Poole (1994).

This theory was originally intended to investigate the implementation of information systems (AST). AST concludes that business establishments and information systems are linked and intertwined. Ruel and Chiemeke utilized the concepts from AST to a study of the HRIS implementation at Dow Chemicals (2009). The Dow Chemical's example explained how the "spirit" of HRIS, which AST referred to as its perspective, was pushed through end-user appropriation and manifested in expected and unexpected HRIS aftereffects. Furthermore, the instance demonstrates how end users appropriate an HRIS' beliefs and philosophies to benefit from the HRIS outcomes. For instance, effective leadership, aptitude, competencies, strategic decision-making process, conflict resolution and management, as well as the organizational environment and surroundings, make up the dimensions that describe or reflect the "spirit" of a group edifice or network (Oyagi and Mjomba, 2021). In keeping with AST, Wang, Zhou, and Zheng (2022) proposed that the execution phase is where automated HRM practices and services are most useful. They explicitly confirmed the interaction between computerized HRM methods, together with HRM competence and maturity, and exploit changes in corporate organizations. They even suggested that AST speeds up researchers' consideration of the "output conundrum" when dealing with automated HRM operations.

A human resource information system (HRIS) is any IT-based application or information system designed for managing human resources, such as accelerating all HR plans, procedures, or techniques. It can be self-sustaining, free-standing, or web-based. The core themes of AST, structuration and appropriation, offer a compelling picture of the method through which people incorporate cutting-edge technologies into their professional endeavors (DeSanctis and Poole, 1994; Wang, Lin, Jiang, & Klein, 2007). According to AST, managerial actors' adaption of technology structures is a factor in the total organizational change. There is a relationship between the different types of structures that are essential to creative technologies and the edifices that emerge in human act as persons interact with the same technologies. This interaction is known as "duality" of structure (Wang, Lin, Jiang, & Klein, 2007; Choi, Dooley & Rungtusanatham, 2001; Wang, Zhou & Zheng, 2022). Organizational change and information communication technology are primarily discussed by three schools of thought.

First, the positivist approach of the decision-making school of thought emphasizes the importance of cognitive processes that are connected to both rational and sane decision-making processes (Chin, Gopal, and Salisbury, 1997; Wang, Lin, Jiang, & Klein, 2007). Jones and Karsten (2008) concur with AST's hypothesis that productive and effective technology ought to boost output and satisfaction among customers and workers. The AST goes on to hypothesize that a failure in the technology chosen, its adoption and utilization, or else its delivery to the organization of choice, mimics a failure in the anticipated change. The second way of thinking is known as the institutional school of thought, and it takes an interpretive approach to a field of study that focuses on both social structure and human interaction.The decision-making process, leadership, effectiveness, conflict resolution and management, as well as atmosphere dimensions, are used to describe the "spirit" of revolutionary or advanced information technology's social structures (Wang, Lin, Jiang, and Klein, 2007). According to Newell, Huang, Galliers, and Pan's 2003 argument, academic research on the cutting edge of technological development is seen as a potential catalyst for change rather than just a key component of it. It goes on to describe that humans build technological structures for social change utilizing the available resources, revelatory plans, and norms that are ingrained in a larger utilitarian framework (DeSanctis and Poole, 1994; Newell, Huang, Galliers & Pan, 2003).

The third is the school of thought known as "social technology," which combines positivist and interpretive thinking. It claims that although technology has cutting-edge features that are unique to it, social practices limit how much of an impact these structures have on behavioral change. This intellectual movement served as the foundation for AST. It emphasizes the importance of social structures, organizational resources, and the established laws transmitted through institutions and technologies as the core of all human activity and interaction (Wang, Lin, Jiang, & Klein, 2007; Chin, Gopal & Salisbury, 1997). According to the adaptive structural theory, technology and action are continuously influenced and shaped by one another. Group Decision Support Systems (GDSS) were used by DeSanctis and Poole to create the groundwork for their study on AST, according to DeSanctis and Poole (1994). (Wang, Lin, Jiang, & Klein, 2007; Ko, Kirsch & King, 2005). The social structures

that technological progress has brought about are composed of structural features, such as rules, regulations, resources, or capabilities, which are provided by the system, and spirit, which is a broad intention with fidelity to the values and goals underpinning a particular set of fundamental features (Wang, Zhou & Zheng, 2022). The spirit aids users in understanding and appreciating the value of technology (Wang, Lin, Jiang, & Klein, 2007). Effective leadership, Conflict Resolution and Management, competency, the decision-making process, and the surrounding environment are examples of dimensions that represent the spirit of social institutions.

Desanctis and Poole made seven claims about AST, among them the rationale that advanced information technologies (AITs) provide social or group structures that are distinguished by their unique features and philosophies and technology that encourages a variety of social collaboration models (Newell, Huang, Galliers & Pan, 2003). Spirit and features can be created from a variety of sources, including user feedback, conversations with designers, and observations. According to Proposition Two, the application of AIT structures changes according to the task, the environment, and other probabilities that provide alternative social structure foundations. Here's an example: While organizational environments are characterized by their complexity, codification, or democratic environmental changes, responsibilities are defined by their richness, complexity, or propensity for conflict (Newell, Huang, Galliers & Pan, 2003; Xu, Wang, Luo & Shi, 2006). The third proposal suggests that new sources of structure emerge as ecologically friendly structures, technological breakthroughs, and social missions are embraced. The fourth hypothesis evaluates new social structures as they develop in group interactions as the Advanced Information Technologies (AITs)' predetermined rules and resources are adopted in a specific context and then repeated in group interactions over a certain limit (Chin, Gopal & Salisbury, 1997; Jones, & Karsten, 2008).

According to the five, group decision-making procedures frequently vary depending on the type of AIT adoptions. The sixth proposition suggests that the level of AIT subvention should vary depending on the group's internal institutional setups, and the seventh proposition responds that AIT, the underlying principles of social structures, ultimate adoption processes, as well as decision-making processes, fit the task at hand, leading to the desired results of AIT (Jones, & Karsten, 2008; Ko, Kirsch & King, 2005). Three levels—institutional, micro, and global—can be used to analyze AST. The adoption and integration of technology and human relationships are the key topics of this examination. The Micro-level Adoption Analysis looks into distinct appropriation moves, distinguishes between faithful and unfaithful appropriation, and investigates the contributing practices and methods used by group members throughout the technological structures (Chin, Gopal and Salisbury, 1997; Jones, & Karsten, 2008).

Various technological concerns that relate to the IoT's (Internet of Things) organizational frontiers are captured by analysis of the worldwide adoption techniques and processes ideologized in an all-inclusive meeting or series of meetings. In order to classify persistent patterns across functional business units, user types, and diverse business establishments for institutional analyses, extensive/pretensive observation of treatises using technology is required (Wang, Lin, Jiang, & Klein, 2007). This links the worldwide human resource practices used by modern firms to the human resource information systems that serve as the foundation for the entire study (Chin, Gopal & Salisbury, 1997; Wang, Lin, Jiang, & Klein, 2007).

2.2.2 Dynamic Capabilities Theory

Theoretically significant and highly concrete theories are dynamic capabilities. According to Jiang, Feng, Zhou & Zhou (2017), who cited Teece, Pisano, and Shuen (1997), described dynamic capabilities as the organization's capacity to assimilate, shape, and revamp external and internal proficiencies with a view to quickly changing the milieus/surroundings (Gicheru and Kariuki, 2019).

This theory was proposed, developed, and published in 1997 according to the book *Dynamic Capabilities and Strategic Management* by David Teece, Gary Pisano, and Amy Shuen (Teece, Pisano and Shuen, 1997). In addition, the dynamic capabilities view (DCV) emphasizes competitive survival more in response to the dynamic nature of contemporary business environments (Lings, Nielsen, Gudergan and Wilden, 2013). Additionally, dynamic capabilities are the capacity of an organization to tenaciously create, disperse, or modify its resource base (Helfat & Peteraf, 2009). The basic premise of the dynamic capabilities' architecture is that essential competencies are intended to alter short-term competitive circumstances that produce and mold longer-term competitive sustainability and advantage (Ibrahim, Ali & Bleary, 2018). The resource-based view (RBV) was unable to interpret the growth, expansion, and revitalization of proficiencies as well as organizational essential resources to help them cope with quickly changing business environments. Dynamic capabilities theory (DCT) emerged as a response and an extension lead. DCT can therefore be considered as a foundation for practical progress (Teece, Pisano & Shuen, 1997).

The DCT hypothesis extends beyond the hunch or belief that a company's or organization's ability to acquire unique, uncommon, valuable, and non-substitutable resources is the foundation of a sustainably successful commercial competitive advantage. Dynamic capabilities give businesses the ability to combine/integrate, collect/assemble, and rearrange their resources and skills to adapt to quickly changing business environments. Dynamic capabilities are thus procedures that let businesses adapt their plans and resources to achieve sustained competitive advantages as well as better results in rapidly changing business environments (Jiang, Feng, Zhou and Zhou, 2017; Mauro and Borges-Andrade, 2020). The Dynamic Capabilities Theory (DCT) places more emphasis on the creation of policies and plans for executives of successful and developing organizations as they work to adapt to a broad-ranging sporadic change and development while upholding the fewest proficiency requirements to improve organizational survival (Ibrahim, Ali and Bleary, 2018).

Through their precious, rare, distinctive, and inimitable resources, organizations are able to gain a competitive advantage (Markora, 2012). However, the mere existence of these resources is insufficient to maintain an enterprise's effectiveness and appeal in a turbulent commercial climate marked by increased ambiguity and doubt (uncertainty) (Markora, 2012: Mauro and Borges-Andrade, 2020). The ability of a company to continuously build, combine, and reconfigure outer and internal capabilities and know-how to withstand and successfully adapt to the rapid changes resulting from the business environment is referred to as dynamic capabilities (Liang, *et al.,* 2020). Researchers and other experts can better understand how commercial establishments fit within the Schumpeterian realm of innovation-based rivalry and competitiveness as well as "imaginative annihilation" with the use of this perception.

The academic work stream has acknowledged dualistic approaches to dynamic capabilities, including macro-level DCs like learning capability and corporate habits and practices in the sustenance of innovation, novelty, and transformation and micro-foundations of dynamic capabilities like executive cognizance. Jiang, Feng, Zhou, and Zhou (2017) concur that dynamic capabilities are intended to support and assist establishments/firms in adopting reconfiguration or reengineering of business processes and allocating their capitals (human and financial) as well as capabilities to quickly adapt to the constantly unpredictable business environments (Lings, Nielsen, Gudergan and Wilden, 2013). Innovation, adaptation, and imitational behaviors are a few examples of dynamic abilities (Ajgaonkar, *et al.*, 2021: Markora, 2012). Additionally, DCs enable a corporation to reengineer processes, repackage resources, and change its strategy to achieve long-term competitive advantages and greater performance in rapidly evolving business environments (Gicheru & Kariuki, 2019). The necessity for an extended archetype to explain how competitive advantage in modern enterprises is acquired and maintained has been established by the fierce global competition in major technical industries like information services and software developers (Zhou & Wu, 2010). According to Barreto (2010), prestigious organizations like IBM and Phillips appear to have followed the "resource-based approach" of accumulating valuable technological assets, frequently protected by a combative intellectual property attitude and/or posture. However, this approach frequently falls short of sustaining a large competitive advantage (Makadok, 2011).

According to Lings *et al*, (2013), companies that can show quick response, rapid product innovation, and the management capability to successfully coordinate and redeploy internal and external talents have won in the global marketplace. It's not unexpected that business analysts have noted that organizations might amass a sizable stock of priceless technological assets while still lacking numerous relevant capabilities. Dynamic capabilities have a positive impact on firm performance in a variety of ways, including by matching the resource base to shifting environments, bringing about market change, supporting both the resource-picking and capability-building rent-generating mechanisms, and boosting inter-organizational productivity and efficiency. Gicheru & Kariuki (2019) assert that the concept of "evolutionary fitness" should be used to evaluate the performance outcomes of dynamic capabilities because "the scope of evolutionary fitness hinges on how to fit the dynamic capabilities of every particular organization to the atmosphere in which the business establishment functions." The firm can grow and spread its services thanks to dynamic qualities that encourage strong evolutionary fitness, which in turn boosts consumer or clientele base (Jiang, Feng, Zhou & Zhou, 2017). Organizational growth incorporates the degree to which the corporation has grown in size through time, and the survival of commercial establishments compel investors to ponder whether it is capable of acclimatizing to its external business surroundings (Ibrahim, Ali & Bleary, 2018).

Six domains of competency have been identified through research, including strategy, defining the contribution of the information system, exploitation, and providing resources and solutions (Zhuang and Lederer, 2016). The variable of ICT competence in this research study is supported by the Dynamic Capabilities Theory. According to Chakraborty and Mansor (2013), a company's technological infrastructure and modern information technology for human resources are both necessary for it to be technologically ready. Laudon and Laudon (2012) maintain their claim that technological infrastructure offers an easier foundation for the development of internet technologies since it is built on competence in skills, knowledge, capacities, information communication, and technological expertise that can be used to construct the internet or web applications.

When the firm has the necessary infrastructure and technical know-how, HRIS reception simply becomes a requirement. These elements make it possible for upper management and staff to adopt and use HRIS (Midiwo, 2015; Saarist, 2016). Organizations without a sufficient technology infrastructure and limited IT experience, on the other hand, can be hesitant to embrace and use HRIS because those with greater technological readiness are better positioned to do so. The impact of technological preparedness on IT adoption and implementation in global organizations is significant (Jaafreh, 2017; Batool, Sajid & Raza, 2015; Martin & Reddington, 2010). To determine whether a company has a chance of remaining relevant on a global scale, these resources are integrated and controlled (Madithetti & Gomes, 2017; Tomana, Gerbi, Hossin & Zhang, 2018).

On the other hand, the Resource-based approach has frequently come under fire for failing to sufficiently account for the factors that contribute to competitive advantage during quick, unexpected, and unanticipated shifts. Additionally, because it places so much focus on internal integration, it is criticized for failing to make connections between business processes and market dynamics involved in turning the advantage of all resources available to the company into a competitive edge (Jaafreh, 2017). Six domains of competency have been identified through research, including strategy, defining the contribution of the information system, exploitation, and providing resources and solutions (Zhuang and Lederer, 2016). The variable of ICT competence in this research study is supported by the Dynamic Capabilities Theory. According to Chakraborty and Mansor (2013), a company's technological infrastructure and modern information technology for human resources are both necessary for it to be technologically ready. Laudon and Laudon (2012) aver that technological infrastructure offers an easier foundation for the development of internet technologies since it is built on competence in skills, knowledge, capabilities, information communication, and technological expertise that may be used to establish the internet or web applications. Acceptance of HRIS only becomes essential in the organization if it has the necessary technical capabilities and infrastructure.

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2.2.3 Contingency Theory

The contingency theory, which holds that many organizations today are shaped by the contexts they work in, is supported by Cole and Kelly (2015). Every organization is assumed to have a unique collection of internal and external limitations that have an impact on it (Kavita, 2010). This hypothesis was put forth by Fred Edward Fielder in his seminal article titled "*A contingency classical model of leadership effectiveness"* that was released in 1964. The essential idea in the contingency proposition is congruence or fit or a good fit, flanked by the internal structure of the company and its business environment. Since the middle of the 1960s, contingency theory has dominated the research of general enterprises' performance. Contingency theory is frequently characterized from the standpoint of open systems, according to Browning, Edgar, Gary, and Garret (2009). The requirement for flexibility is nevertheless emphasized by the idea. According to Belcourt and McBey (2010), the contingency theory is based on the idea that there is no single method for managing businesses. The strategy contends that there are numerous strategies for delivering good leadership and management in businesses (Mullin, 2010).

According to the structural theory of contingency, there is no one ideal strategy to harmonize, guide, and improve decision-making processes. Instead, the ideal itinerary depends on both the internal and external organizational circumstances. Setting up a support structure in advance for use in an emergency is referred to as contingency. According to structural contingency theory, firms and commercial establishments should have a plan in place for promoting change as necessary. It emphasizes that each business establishment must make modifications to ensure that they are operating in well-organized structures for the sustainability of the business and that a firm's structure must be flexible for every business organization (Shala, Prebreza, and Ramosaj, 2021; Reinking, 2012). When running any business enterprise, contingent frontrunners are nimble when choosing and adapting to laconic tactics that bring together changes in the state of affairs in a certain period. Information security management, according to contingency philosophers, is a component of contingency administration and control that aims to identify, prevent, and mitigate dangers, pressures, and susceptibilities as well as shifts both inside and outside of any commercial firm.

In order to protect only their information communication technology (ICT) equipment, services, data, and information, enterprises should also focus on cybercrime upsurges and impulsive natural adversities. Businesses worldwide cannot predict when natural disasters or security breaches will occur, according to Reinking (2012). However, companies must develop a plan that monitors the frequency of security breaches in order to help lessen the effects. This posture might be thought of as a contingency plan for cyber security. A laid-out risk management document that provides strategies, recommendations, worries, and considerations of a business entity on how to recover its ICT information, services, and data in the event of a safety violation, adversity, or system distraction is known as a cyber-security contingency strategy. Its principal goal is to safeguard data, assets, and information following a security breach or catastrophic event. Similar to that, it continues to support techniques that aid in gathering and preserving information in addition to developing a root cause inspection or examination (Shala, Prebreza, and Ramosaj, 2021).

Commercial State Corporations operate under open systems that place a strong emphasis on the connections between an organization and the environment in which it operates in order to achieve the vital goals necessary for their continuing existence. These organizations are open systems that rely on outside knowledge and resources (including human and financial resources, among others) to flourish (Jaafreh, 2017). The effectiveness of this theory, according to Mullin (2010), is attributable to the numerous research investigations that have established the validity of the various linkages between internal integration and unforeseen events (contingencies) in businesses today.The ability of state corporations in Kenya to use the available resources effectively while taking into account the contingencies in the environment they operate in, under top management commitment that recognizes that not a single situation fits all, assist in improving their chances of survival as well as improving their organizational performance.

As a result, this study's conceptual framework is founded in part on the contingency theory and linkages between top management commitment, human resource information systems, and performance. In recognition of the fact that organizations are influenced by their environments, which include age, technology, size, as well as organizational culture, and do not operate in a vacuum, it continues to tie the variable of information security, a necessity in the acceptance and effective operationalization of HRIS. As a collection of interconnected parts, with technology as one of them, many businesses also adopt the idea of open systems (Cornell and Jude, 2015; Shala, Prebreza, and Ramosaj, 2021). Information security is required where technology is present in order to protect sensitive and important organizational data from rivals and other interested parties.

2.2.4 Systems Theory

Cole and Kelly (2015) aver that a system is a set of interrelated parts which form a whole. It was propounded and promoted by Ludwig Von Bertalanffy, a biologist in his working paper; *general systems theory* in 1940s and later in 1968 (Yeung & Brockbank, 2015; Gladding, 2013).

Further, Ross Ashby in his write- up *introduction to cybernetics,* authored in 1956, added supplemental insights and intuitions to the legendary theory. It can be described as more of an approach to rational and persuasive thinking rather than a comprehensible and standardized theory (Browning *et al.,* 2009; Gladding, 2013). There are two types of systems, the closed and the open systems. Systems that are entirely self-sustaining and so do not interact with their environment and are called closed systems while those which interconnect with their environment, which they rely on for gaining necessary inputs and release their systems outputs are referred to as open systems (Selvam and Lakshmi, 2013; Hameed, Counsell & Swift, 2012).Robbins (2009) reaffirms that an open system's key characteristics are that it draws energy and other inputs from its surroundings and transforms those inputs into outputs that are then released back into the environment. These inputs are then motivated and structured to transform raw materials into finished goods, services, and other outputs that are released into the environment (Cornell and Jude, 2015). Outputs are the results of what the system transforms and then sends to the environment.

System boundaries aid in separating organizational systems from their contexts (Stephen, Robbins, and Judge, 2011). Understanding and productive partnerships with environmental constituents are necessary for all corporate functions to be effective. (Browning et al., 2009; Judge, Stephen, and Robbins, 2011). The effectiveness of the entire system will suffer if one of the units performs poorly (Muriu, 2014). Management cannot neglect to sustain positive relationships with stakeholders who have the power to undermine the stability of the firm, including consumers, suppliers, government agencies, unions, and others (Ologbo, Oluwatosin and Kwakye, 2012). A consistent replenishing of such materials is necessary for survival.Raw materials that have been used up must be replaced, positions left vacant by layoffs and retirements of employees must be filled, product lines that are failing must be replaced, and projections of changes in the economy and customer preferences must be made and followed through on. The organization will deteriorate and possibly collapse if this isn't replaced (Henrick, Kaplan & Smolinski, 2012). In light of this scholarly work, the theory supports the moderating variable of top management commitment to HRIS acceptability and utilization.

In firms that employ HRISs, switching to a web-based system or corporate intranet is currently the most effective cost-cutting measure (Almamary *et al.*, 2014). Utilizing this technology results in greater efficiency and productivity within the organization and offers businesses an alternate method of providing HR self-service solutions (Ma, Ma & Chen, 2016; Henrick, Kaplan & Smolinski, 2012). Many small-sized and older firms struggle to deploy HRIS on a tight budget. This necessitates the dedication of top-level management, who are responsible for setting policies and allocating resources (Ma et al., 2016).HR policies outline the strategies the business uses to address important HRM issues and provide ongoing instructions on how these strategies should be used (Dessler, 2013).

Thus, senior management is solely responsible for developing policies regarding technology and employee voice. Beadles, Lowery, and Johns (2015) concur that new technology policy statements should specify that there will be consultations regarding the introduction of new technology and the measures that the organization would take to minimize the risk of compulsory redundancy or adverse effects on other terms and conditions or working arrangements, while the employee voice policy should specify the organization's belief in allowing employees to have a say in matters relating to the employment relationship (Yeung and Brockbank, 2015).

2.2.5 Diffusion of Innovation Theory

The 1960s marked the beginning of the Diffusion of Innovations Theory (DOI). The DOI, which describes how technology and novel ideas proliferate and why, was said to have been created by Everett Rogers (Rogers, 2003; Oliveria and Martins, 2010a). Rodgers' first recommendations for important and dominating aspects that contribute to the explanation of the occurrence of social change were highlighted by McGuire and Scott (2017). Due to the development and advancement of DOI theory, his explanations and proposals on the spread of ideas have undergone several revisions and extensions (Murray, 2009). Diffusion is inherently focused on and driven by policy. Rodgers promoted a thesis that focused on innovative characteristics and both positive and negative acceptance of technological advancements (Barker, 2004).

According to the theory behind the diffusion of innovations, effective and active channels of communication, like the human resource information system, are essential for enabling the spread of processed information about contemporary technologies as well as innovative ideas and philosophies among employees and making it easier to establish their collective recognition and approval in organizations (Murray, 2009).The machinery that enables new ideas, like Human Resource Information Systems, to be accepted and used, increasing productivity, is analyzed and illustrated by the Diffusion for Innovation Theory. The management and staff of any given organization's resistance to change may obstruct the diffusion of innovation, delaying the adoption of numerous inventions (Murray, 2009; McGuire and Scott, 2017). According to Rogers (2003), diffusion entails the dissemination of innovation across time and takes place amongst members of the social system (Barker, 2004).The study of diffusion focused on five key areas: innovation characteristics that might influence adoption; decision-making when considering the adoption of a new product, practice, or idea; individual characteristics that might influence adoption to innovation; the implications of adopting innovation on the individual and the societal levels; and the channels of communication used in the adoption process (Badgi, 2012).

Rogers (2003) used the terms "technology" and "innovation" interchangeably because many different types of studies on diffusion for innovation involved technological innovations. The arrangement of significant actions that reduce ambiguity and the impacts of cause-and-effect links, which are necessary for the realization of desirable outputs and/or outcomes, can be seen as technology (Laudon and Laudon, 2014). The components of technology include both hardware and software. Software is a technological invention with minimal degrees of observability and acceptance (Tomana et al., 2018). According to Chakraborty and Mansor (2013), adopting a tenacious approach to using an invention is the main course of action that is immediately available, whereas rebuffing an innovation is referred to as refutation. The Diffusion of Innovations Theory postulates that media and human interactions both convey information and shape perceptions of it.

The decision's kind is determined by a number of elements, including whether it should be made at the discretion of the decision-maker and carried out voluntarily (Rogers, 2003; Tomana *et al.,* 2018). The information quality variable is supported by this theory. Accessibility, integrity, consistency, accuracy, completeness, and timely information are just a few of the aspects of information quality that help modern enterprises throughout the world improve their decision-making processes (Gharib, Giorgin & Mylopoulos, 2016). To successfully complete the decision-making process, the outputs from the information systems must satisfy the quality requirements. Data warehouses should therefore contain accurate information that is combined from a variety of operational databases. This ensures that high-quality information is made available throughout the organization for management's scrutiny and decision-making (Yeung & Brockbank, 2015; Azemi, Zaidi, and Hussin, 2017). As it affects the acceptance and usage of ICT in many, if not all, institutions in the public and private sectors of all governments or countries internationally, the Diffusion for Innovation Theory continues to link the variable of information quality to HRIS. Consequently, in order to accomplish this, systems validity and openness are essential (Mukulu, Karanja & Warui, 2015).

2.2.6 Technology Acceptance Model

Noutsa, Kamdjoung and Wamba (2017) affirm that Technology Acceptance Model (TAM), developed by Davis came into existence in 1986. It has been confirmed by various researchers in the field of innovations and technology that TAM is one of the most essential research models in research studies linking the factors contributing to the acceptance of information technology. This is in an effort to predict the intention of using and endorsing information technology and systems by innumerable individuals and organizations worldwide (Chen, *et al.,* 2011; Dulcici, *et al.,* 2012). Raman (2011) agrees that TAM is one of the supreme and accepted models in technological acceptance, usage, and advancement. TAM is validated as a theoretical model which is helpful in forecasting and interpreting the behavior of users in information technology (Noutsa *et al.,* 2017). Raman (2011) agrees that TAM is a significant principal extension that leads to the theory of reasoned action (TRA).

It explains the consequences and implications of prior outlooks towards the process of decision-making. Lai (2017) proposed the use of TAM to clarify why a user agrees or rejects information technology thus adapting TRA.TAM makes available a foundation with which an individual suggests how peripheral variables impact the attitude, intention to use technology, and beliefs. Assumed ease of use and its assumed usefulness are two cognitive beliefs that are hypothesized by TAM (Jaafreh, 2017). Raman (2011) agrees with Fred Davis (1989) who defined perceived usefulness (PU) as the step in which an individual relies on the fact that the usage of a particular system is likely to enhance his or her performance. This is because it helps the individual to work effectively by taking minimal time to accomplish more quality work within the shortest time possible. Perceived usefulness explains the degree to which interested parties in the acceptance and usage of information technology and systems rely on a specific system in an effort to enhance their productivity (Bagozzi, Davis and Warshaw, 2012; Gharib, Giorgin & Mylopoulos, 2018). Gharib *et al.,* (2018) continue to say that according to TAM, one authentic use of a technology system is inclined directly or indirectly to the user's behavioral attitudes and intentions, perceived ease of the system, and perceived usefulness of the system.

TAM goes ahead to propose that forces from the external environment may influence the actual use and objectivity of information systems through expedited effects on perceived ease of use and its usefulness. Dulcici *et al.,* (2012) agree that the Technology Acceptance Model stipulates the fundamental relationships between the characteristics of system design, professed usefulness and ease of use, the intensions and attitude aimed at ensuring proper usage of technology and the authentic procedural behavior (Chen, et.al., 2011).Overall, the TAM provides an instructive representation of the contrivances by which designed choices influence user acceptance, and should therefore be helpful in applied circumstances for predicting and appraising user acceptance of information technology in any organization (Bagozzi, Davis & Warshaw, 2012; Gharib, Giorgin & Mylopoulos, 2016). This theory ties or links the variable of system quality by showing its importance in the approval and enactment of HRIS in organizations today.

The physical features of system quality that enhance the usage and effectiveness of HRIS in organizations include comfort in its usage, the flexibility of the system, the reliability of the system, and learning ease, as well as sophistication, and well-timed response rate. The features of particular interest in an HRIS are; software usage, its unification with other IT systems being utilized in the firm, use of the internet and intranet, and endowment for self-service amongst individuals in the organization.

2.3 Conceptual Framework

A conceptual framework, according to Mugenda (2008), is a concise summary of the phenomenon being studied and a visual illustrating the key research study factors. The ideas under examination are identified in the conceptual framework, along with their relationships (Saunders, Lewis and Thornhill, 2009). The framework on which this study was built explains the relationship between the independent, moderating, and dependent factors. The input-output model, the HRIS adoption model, and the HRIS success model were all used by the research study to build its conceptual framework. Organizational performance was the dependent variable, and the independent factors were ICT capability, HRIS system quality, HRIS information quality, HRIS information security, and top management commitment. As a result, the conceptual framework was supported by the aforementioned theories, experiential readings, and models. The four independent variables are depicted diagrammatically in Figure 2.1 as the drivers of the impact of human resource information systems on organizational performance in Kenyan commercial state firms.

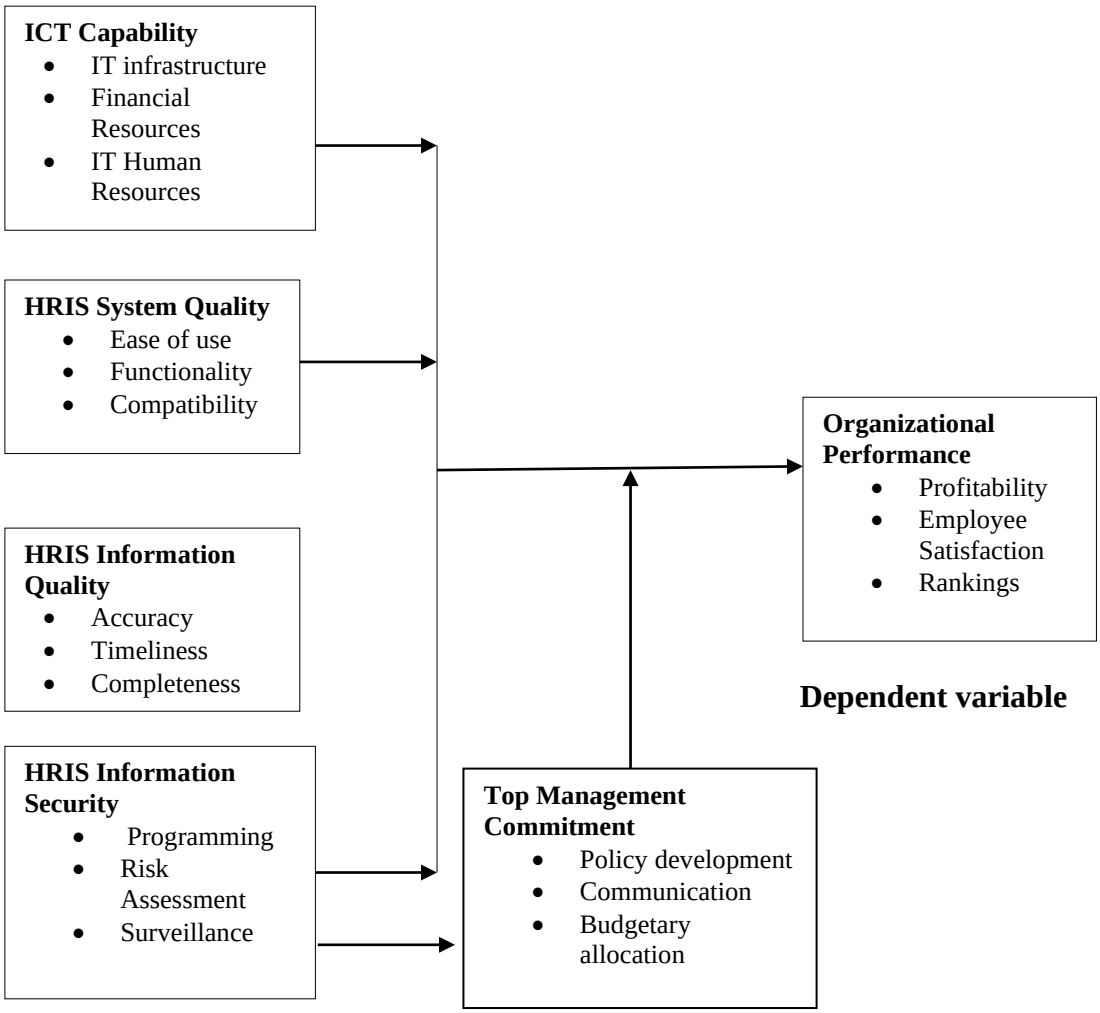

Figure 2.1: Conceptual Framework

2.3.1 ICT Capability

The abilities, competencies, skills, propensity, and knowledge (cognitive power) that a person/employee/possessor ought to carry in relation to the task that one is engaged in can be pigeon-holed as capability in the management of human capital (Aguinis, 2009; Cepeda & Arias-Perez, 2019). The ability of a company to acquire, use, combine, and refit ICT resources in order to realize/attain/accomplish sustained competitive advantage in the global economy is referred to as information technology capability (ITC) (Cepeda and Arias-Perez, 2019).

Business enterprises run in tempestuous and vibrant settings which are typified by ballooned competition besides alterations in the necessities as well as individuals' behavior, so adoption of innovative technologies plays a key role in facilitating enhanced organizational performance. Lack of adequate capabilities that is ICT and HRIS expertise lead to inadequate /derisory performance therefore there is a need to embrace HR innovations meritoriously so had to enhance organizational performance (Barron, Chhabra, Hanscome & Henson, 2014; Zafar, 2013). Therefore, ICT capability is critical /crucial to the acceptance and utilization of HRIS in the contemporary world. Chakraborty and Mansor (2013), agree that technology promptness is dependent on an organization's technology infrastructure and IT human resources. Based on IT proficiency skills, knowledge, and abilities that they use to build a web application; technology infrastructure makes an easier base on which internet technologies can be made (Kaygusuz, Akgemci & Yilmaz, 2016; Teotia, 2012). IT infrastructure is comprised of a set of physical devices and software applications that are required to function in the entire enterprise (Shani and Tesone, 2010). Mata, Fuerst, and Barney (2015) opined that ICT infrastructure can also be a set of firm-wide services budgeted by top-level management (strategists) and comprise both human and technical capabilities. Laudon and Laudon (2014) agree that IT management services design and develop the infrastructure, coordinate with the organizational units for ICT services, manage to account for the IT expenditure, and offer project management services.

IT principles and services provide the enterprise and its functional units with the firm's policies, procedures, rules, and regulations that decide on which IT service to use, how, and when. IT learning and development programs that provide coaching, sensitivity training, education, and training and development in system use to the employees need to be supported and embraced in organizations. They should be extended to managers to empower them with knowledge, skills, and capabilities to manage IT investments, carry out research in the field of ICT on behalf of the firm and advise the board of directors on the probable viable IT projects that the organization can venture in the future to remain relevant (Badgi, 2012).

Hardware and software purchasing costs account for only about 20 percent of the total cost of ownership (TCO), so managers must pay close attention to administration costs to cognize the full cost of the firm's hardware and software. Laudon and Laudon (2014), aver that to reduce some of these administrative costs through proper management. Many large firms are saddled with redundant, incompatible hardware and software because their HR/IT departments and divisions have been allowed to make their technology purchases. In addition to switching to cloud services, these firms could reduce their TCO through greater domination and standardization of their hardware and software resources (Laudon & Laudon, 2014). Companies could reduce the size of the HRIS/ information systems and the employees required for the maintenance infrastructure if the firm minimizes the number of different computer models and pieces of software that employees are allowed to use.

Panjaitan, Sule, Kusan, and Yunizar (2016) cited that IT short term and long-term strategic plans, infrastructure, and affordability of the project, scrutinize the company's ICT policies and procedures and it is therefore essential in appraising its special tasks with the enterprise's corporate strategies. It is also advisable that the management determines the total HRIS infrastructure costs (Kemei, 2016). The management may then want to perform a TCO (Total Cost of Ownership) analysis which is described as an all-inclusive valuation of information communication technology (ICT) or other additional expenditures through business establishment precincts over time. If the organization doesn't an IT strategy, the organization's management may need to come up with one that takes into account the firm's five to the ten-year strategic plan; IT assessment is the organization is behind the technology curve or at the wringing edge of IT. Both situations should be avoided. Barron, Chhabra, Hanscome, and Henson (2014), assert that, when examining the relationship between IT competency and IT capability, it is suggested that an organization's strategy and its investment decisions are two key contributing factors. These two factors can determine whether an organization's IT capability forms the basis of competitive advantage, competitive equivalence, or competitive disadvantage.

Nyariki (2013) agrees that the competitive advantage of any organization is a condition that puts a company in a superior position compared to that of its competitors. This ensures that the organization provides quality goods and services as a way of retaining its customers. Zhuang and Lederer (2016) agree that IS capability, has three interrelated attributes; merging IT knowledge and business knowledge; which is critical in ensuring that strategies involving technological innovation are formulated and appropriate IT choices made and implemented quickly and effectively. Rai (2014) avers that knowledge is needed for incorporation and coordination from many individuals in different disciplines and backgrounds, with diverse experiences and expectations, located in various departments in the organization. To achieve this, a close relationship between IT staff and business staff at all levels is needed; a stretchy and reusable IT infrastructure-this is the supply side component of the IT capability that provides the technical platform, services, and specialists resources needed to react quickly to required business changes together with the capacity to develop innovative IT applications (Devaraj and Kohli, 2010).

Since an organization's IT infrastructure provides the shared base for the organization's ability to build and use business applications, as one of the key elements that determine an organization's level of swiftness as it seeks to respond to changing organizational necessities and opportunities (Mwangi, Ngulube and Schellnack-kelly, 2016). Therefore, IT infrastructure and services need to be adequately and amply planned for, rather than being allowed to grow in an ad hoc manner over time. An effective use process-since technology by itself has no intrinsic value, its value must be revealed through the use of technology and creation of a beneficial and valuable environment for collecting, organizing as well as maintaining information, besides implementing the processes needed to deploy technology to deliver business benefits and needs. This in turn requires knowledge, skills, and abilities from within the firm (Barron, Chhabra, Hanscome & Henson, 2014).

2.3.2 HRIS System Quality

Bocij, Greasley, and Hickie (2015) cited that System/Software metrics are used by companies developing information systems to institute the quality of programs to improve customer/consumer satisfaction. This is done by reducing errors through better programming and testing practices. Software or system quality is measured according to its suitability for the work intended (Jaafreh, 2017). This is governed by whether it can do the job required to meet the expectations of the employers, employees, and the necessities of the business (Nhari, 2017). Various flaws and bugs in programs are mainly caused by human errors during programming or earlier in its lifecycle. These may result in major defects which may remain unidentified (Mata, Fuerst & Barney, 2015). Obeidat (2012) agrees that the quality of the software is dependent on the number of errors or bugs in the software and the suitability of the software to its intended purpose. Oliveria and Martins (2010a), affirm that it follows that good quality software aids the company users in accomplishing their tasks and contains minimal imperfections or errors.

Bamel *et al*., (2014) affirm that the number of errors can be easily measured, although errors may not be detectable until they are experienced by end-users. Suitability to purpose is difficult to quantify since it is dependent on various factors which include; functionality, ease of use for the consumer, initial set up and administration; performance of various functions such as data retrieval and screen display if used by a customer-facing the situation. This will be a crucial factor, and compatibility or interoperability / how do the solutions blend with other products (Devaraj and Kohli, 2010). This includes what the organization is currently using and what they will be using based on their strategic plans; security; reliability of product; anticipations for long-term support and extensibility of products. Systems quality can also be described as a primary component of human resource information systems adoption (Noutsa, Kamdjoug & Wamba, 2017). Oliveria and Martins, (2010b), confirm that in assessing the contribution of information systems to organizational growth and development, various IS researchers have studied the processing system itself.

Weeks (2013) created and tested a productivity model for computer systems, including performance measures such as resource utilization and investment utilization. The recent HRIS has communication systems, some elements of artificial intelligence, and decision support systems among others. Saleem (2012) asserts that the initial phase in the design of HRIS is the description of what is required for the information system to suit the business needs. This includes identification of the target users, data collection, amount of data to be collected, and how often is the data collected. The next phase is the business system design. This phase addresses issues concerning the system's usage, how will it be updated, upgraded, and accessed.

An integrated HRIS comprises a set of functions in human resources (Bal, Bozkurt & Evtemsir, 2012). The integration of these functions enables the organization to use the system to access data that is vital and relevant in the process of decision making. In the initial phase of HR systems design, sacrifices are made due to short-term cost savings. This idea is self-defeating and can lead to task ambiguity and lead to lower productivity, lower morale, and increased employee turnover (Barron *et al.,* 2014). An HRIS can ease job placements by containing all the raw facts and statistics regarding job descriptions, compensation, training requirements, and existing employee performance evaluations (Bal *et al.,* 2012). Tao, Yeh, Rosa, and Sheng-I (2016) agree that HRIS can be envisioned as consisting of three functions: Input, data maintenance, and output. Many enhancements to HRISs are designed to yield the specified information quickly and at an affordable cost (Karanja & Wairimu, 2016). Businesses are also trying to fight the costs associated with HRISs by use of off-the-shelf software instead of developing a custom system (Weeks, 2013). PeopleSoft, SAP, Oracle, and Lawson Software create the preeminent software packages for use. HRIS software sellers are now widening their horizons to offer human capital planning, departmental as well as organizational budgets, tracking of employees, and employee turnover management. Software retailers are also increasing the ability of their packages to merge with other typical business applications (AL-Gharaibeh & Malkawi, 2013). Further, Ohanu, Shodipe, Ohanu & Okeakwae (2022) reaffirmed that the quality of the system sways the perceived ease of use, perceived usefulness, assertiveness and apparent behavioral control towards intents of usage and climaxed into definite usage of melded learning.

2.3.3 HRIS Information Quality

Bocij, Greasley and Hickie (2015) agree that data is extremely important in modern businesses. Therefore, proficient management of data is central to the firm's business strategy. Marakas and O'Brien (2011) agree that the main goal of a successful company is to ensure that data collected is of high quality as it enables the firm to have a high quality of the information in the long run. To enhance the managerial decision-making process, it is considered indispensable to ensure that well-timed, relevant, and accurate information is made available to decision-makers (Laudon & Laudon, 2014; Nhari, 2017). Almamary et *al.*, (2014) agree that proper management of information systems refines information quality and consequently improves the process of decision-making. New employees need to be trained on how to enter data into the system to avoid feeding it with inaccurate data into the system (Gash & Blatchford, 2012; Azemi, Zaidi & Hussin, 2017). AL-Gharaibeh and Malkawi (2013) affirm that service companies are incessantly striving to improve service delivery to their clients because it contributes greatly to their growth. The intensity and importance of quality of services at the workplace are deemed as one of the key reasons why firms are investing in information systems (IS). Laudon and Laudon, (2012) cited that information comprises of various characteristics that are used to describe its quality.

Al-Dmour, Love, and Al-Zu'bi (2013), agree that the variance between commendable and unscrupulous information is identified by considering whether or not it has some or all of the features of quality information. Clusters of characteristics through which the quality of information can be evaluated are congregated into classifications of time, content, and form (Jaafreh, 2017). Weeks (2013) avers that information quality: high-quality decisions require high-quality information. The HRIS information quality proportions that influence the quality of decisions in companies include; accuracy: - do the data represent reality? Integrity: - are the configuration of data and interactions among individuals and features consistent? Consistency: - are data components constantly defined? Completeness: -is all the essential data present? Validity: - do data values fall within well-defined ranges? Timeliness: - Is data obtainable when needed?

And accessibility: - is the data obtainable, comprehensible, and usability? The output of information systems should meet these criteria of quality, to enhance the decision-making process (Karanja and Wairimu, 2016). De lone and McLean 1992 as quoted by (Jaafreh, 2017) agree that information quality is the anticipated feature of the management information system outputs. Information quality measures information system output rather than the quality of the system's performance and efficacy. Quality of information has an impact on the overall decision-making process by the board of management in organizations today.To assist decision-makers to make the right, effective and informed decisions, information should be free from errors, complete, precise, presented in a unified format, relevant, readily available, support organizational information needs, accessible, and understandable (Marakas & O'Brien, 2011).

2.3.4 HRIS Information Security

Kavanagh, Thite, and Johnson (2012) assert that when huge quantities of data are stored in electronic form; are susceptible to many types of threats than when they exist in manual form. Through communications networks, information systems in dissimilar settings are interconnected. The possibility of illegal access, abuse, or fraud is not restricted to a distinctive location but can arise at any access or point in the network (Bamel *et al.,* 2014). The most common threats against modern-day information systems arise from technical, organizational, and environmental factors blended with poor management decisions (Blount and Castleman, 2009; Nhari, 2017). O'Brien and Marakas (2011) aver that systems failure can result from computer hardware breakdown due to poor configuration, damage by inappropriate usage, or criminal acts. Errors in programming, ill-timed installation, or illegal changes cause computer software failure. Power failures, floods, fires, or other natural disasters can also mess up computer systems. Domestic or offshore partnering with another enterprise adds to system susceptibility if valued information exists in networks and computers outside the company's control (Ma *et al.,* 2016). Lack of resilient safeguards leads to loss and destruction of valuable HR data as data could fall into the hands of malicious individuals. These individuals then reveal useful trade secrets or information that infringes personal privacy (Ifinedo, 2011).

Laudon & Laudon (2014) affirm that the acceptance of mobile devices for trade computing adds to these woes. Portability makes cell phones, smartphones, and tablet computers easy to lose. Smartphones share the same safety flaws as other internet devices and are susceptible to malevolent software and penetration from outsiders. In 2009, security experts acknowledged 30 security defects in software and operating systems of smartphones made by Apple, Nokia, and Blackberry makers (O'Brien & Marakas, 2011). Even the applications that are tailor-made for mobile devices are capable of turning into scoundrel software. For instance, in December 2009; Google towed several mobile banking apps from its Android market because they suspected that they could have been updated to capture customers' banking credentials. Smartphones used by executives in organizations are likely to have sensitive data such as sales figures, customer names, phone numbers, and email addresses.

Intruders may therefore be able to gain the right of entry into internal corporate networks through these devices thus making vulnerable the information quality (Harris, Craig & David, 2011). Amamary *et al.,* (2013), aver that computers are constantly connected to the internet by cable modems or digital subscriber line (DSL) lines are open to invasion by malicious individuals who use fixed internet addresses where they can be easily identified. A fixed internet address crafts a fixed target for hackers. Leigh, Susceptibility has led to an increase in the widespread use of emails, instant messaging (IM), and peer-peer file-sharing programs. Many firms, including governments, financial institutions, hospitals, and private businesses store confidential information about their workforce (Selvam and Lakshmi, 2013). Another report estimates that 70% of the security breaches that involve losses of more than $ 100,000 are perpetuated from within the organization, often by dissatisfied employees. Inside attacks are potentially very expensive. This reinforces our squabble that security is to a large extent an issue of the resource management practitioners. Consequently, HR managers should play a crucial role in addressing security bleaches (Blount & Castleman, 2009).

When confidential information about employees, business partners, or customers' falls into the hands of competitors and other intruders; this breach of security could result in business losses, litigations, bankruptcy and consequently winding up of the companies (O'Brien & Marakas, 2011; Tamana *et al.,* 2018). Protecting a firm's information is a vital element in the company's security policy. In many states, it is a legal requirement and part of corporate social responsibility (Palmer, Dunford & Akin, 2009). The common security threats in organizations include Human error and damage by employees (Daft, Kendrick & Vershinina, 2010).Users think the security threats to a piece of business information originate from outside the organization; in fact, company insiders pose more serious security problems than outsiders (Dessler, 2013). Data security management is an operational surveillance and all-inclusive management of a company's data to safeguard the data from illegal access or corruption by unsanctioned users (Bocij, Greasley and Hickie, 2015). An organization's data protection and security management blueprint encompass the formulation, implementation, authentication, and apprising of the constituents of the said plans (Helle, and Kim, 2008).

Data safety is essential to both the public and private sector for a variety of firms for a variety of reasons among them: the moral and legal responsibility that business establishments have to shield their user as well as their client data from plummeting into the ill motived users (Awad, and Fairhurst, 2018). Notoriety risks that come with data hacking of breaching can damage the repute of any given organization with fiscal and logistical concerns of a data breach notwithstanding. ICT and data analysts devote their time and resources to evaluate and mend the mangles and define failed business processes and what needs to be done to improve on the same (Helle, & Kim, 2008). Daft, Kendrick, and Vershinina, (2010) agree that employees who have access to restricted organizational information, and in case of sloppy internal security procedures, they are often able to meander throughout an organization's systems without leaving a trace. Lack of systems knowledge is the single greatest cause of network security breaches (Sun, 2017).

Many employees forget their passwords which they use to access computer systems or allow co-workers to use them, which compromise the system. Intruders seeking system access often trick employees into revealing their passwords by pretending to be legitimate employees of the organization in need of information, a practice called social engineering (Henrick, Kaplan & Smolinski, 2012). On the misuse of computer systems: one of the major internal security threats is employee's unauthorized access to or use of information particularly when it is confidential and sensitive. Theft: information value confined in information systems could be higher than the price of hardware and/or software. With the developments in technological advancements, a relatively small computer chip (for example a USB device can easily store up to 120 GB of data. There is growing evidence that computer-based fraud is widespread in organizations globally (Hsien & Cho, 2011). Over 90% of companies globally have been affected by computer-based fraud such as data processing or data entry routines that have been modified (O'Brien & Marakas, 2011). Viruses, Worms, and Trojans also pose threats to computer systems. They are common external security threats and often come with email attachments. They can automatically duplicate themselves across systems and networks as well as characteristically delivering roguish functionally or damaging the information Mata, Fuerst and Barney (2015). Hackers are individuals who intend to gain unlawful access to a computer system. Within the hacking community, a cracker is a hacker with criminal intent.

Hackers gain unofficial access by finding flaws in the security protections used in websites and computer systems (Daft, Kendrick & Vershinina, 2010). They often take advantage of the various characteristics of the internet that make it an open system that is very easy to use (Mata *et al.*, 2015). Solms & Niekerk (2013), aver that Spoofing and sniffing are hackers who endeavor to hide their true identities, often takeoff, or misrepresent themselves by use of false email addresses or camouflage as other people. Spoofing also may involve redirecting a web link to an address different from the intended one, with the site cloaking as the intended destination. For example, if hackers redirect customers to use fake web site that looks almost exactly like the true site, they can then collect and process orders, successfully steal from the organization as well as pose a threat to sensitive customer information from the genuine website (Awad & Fairhurst, 2018).

2.3.5 Top Management Commitment

Barron *et al*., (2014) agree that in addition to oral support on HRIS usage given by corporate executives to their workforce, top management can demonstrate their confidence in HRIS by individually utilizing the system. Their frequent HRIS usage may result in sufficient delegation of both financial and human resources resulting in increased pressure for HRIS success. Ang *et al.*, (2001) as quoted by Al-Dmour, Love, and Al-Zu'bi (2013) examined 47 Malaysian public sector agencies on IT usage to support total quality management (TQM). Among the organizational factors explored, the researchers found top management support for IT applications was the highest predictor of IT usage. Top management support and commitment has also been acknowledged as an essential element for crafting a supportive organizational climate and providing adequate human and physical resources for the acceptance and usage of new technologies (Mata, Fuerst & Barney 2015). Mata, Fuerst & Barney (2015) agree that there is global agreement that large-scale technology projects generally fail due to managerial and not technical reasons. Additionally, they can identify a conducive working environment for technology implementation which is positively related to the extent of neutralization of inhibitors.

Banaeianjahromi (2019), realized that conditions in the company's business environment could enable or constrain the capacity of HR systems to develop and exploit organizational knowledge, skills competencies, and abilities. Averbook (2012) agrees that top management, with its broader perspective, is better placed to detect business opportunities for the exploitation of ICT by providing appropriate strategic vision and direction on the acceptance and usage of new innovations or technologies. Visible top management sustenance signifies the importance of the innovation in helping to overcome organizational resistance to HRIS. The users of the new technology consequently become more confident and upbeat, which ultimately results in a smoother transition away from the old work practices (Kavanagh, Thite & Johnson, 2012). Corporate executives can ensure that sufficient resources are set aside for the adoption of innovations by virtue of their leadership roles. Key success criteria include visible strategic management support and commitments.

Successful innovations are also associated with an open management style, which can be bolstered by ICT functions that are related to communication (Ifinedo, 2011). Enterprise Architecture (EA) which clamps corporate entities is described as a slant that brings about operational, hi-tech and a firm's intricacy through an all-inclusive view of the business entity to realize its premeditated goals. HRIS adoption and implementation forms part of the overall enterprise architecture that requires funds through budgetary allocations, effective communication for proper coordination of activities and policy definition, formulation and execution to realize this strategic quest. Organizations therefore espouse EA to bring about intricacies and support businesses and ICT, uphold interoperability of information systems, minimalize costs, as well as capitalize on return on investment (ROI). Nevertheless, firms still experience numerous hurdles and impediments when embracing EA. Management, in its integrative role, crafts a tie between the apportionment of a firm's resources and the overall purposes and intents of an enterprise (Banaeianjahromi, 2019).

In a study of large innovative organizations, Ntoetia (2012) revealed that innovation would emerge continuously because top management would appreciate innovation and would contribute actively to keep up the value system and an enabling work business environment that supports creativity and innovation. Management support is one of the main recurring factors influencing organizational system success and computing acceptance. The engagement of top management and organizational commitment created the perception that these two factors were responsible for the highest coefficients for the impact on the level of employee acceptance of the new HRIS introduced in the Malaysian Airlines System. Thite, Kavanagh, and Johnson (2012) cited Ngai and Watt (2004) as saying that strategic managers' backing was a major factor in Hong Kong's effective adoption and use of HRIS. Furthermore, HRIS supports the decision-making process used by strategists in modern organizations, facilitates the evaluation of programs and policies, and supports routine operational initiatives, according to Oyagi and Mjomba (2021).

2.3.6 Organizational Performance

Devara & Kohli, (2010) opine that organizational performance is the amassed or cumulative outcomes of the firm's work practices, procedures, developments, processes, and accomplishments. It is measured and controlled by managers and business leaders since it culminates to enhanced asset management, improved ability to deliver customer value, and enriched organizational knowledge. Additionally, measures of organizational performance have comprehensive and improved effects on the overall organization's reputation (Armstrong & Taylor, 2014). By and large, the pragmatic measures of organizational performance comprise organizational effectiveness, customer focus, customer satisfaction, organizational ranking, and enhanced productivity (Fernandes, Ferreira, Veiga, & Marques, 2019). Organizational performance can also be described as the amassed outcomes of all the business establishment's work processes, procedures, endeavors, and accomplishments. The joint measures of organizational performance, in this context being the firm's employee productivity and organizational efficacy (Al-Mamary, Shamsuddin, Aziati, 2014).AL-Gharaibeh and Malkawi (2013) agree that organizational performance is the behavior that accomplishes acceptable outcomes.

Performance is a result of three major determinants which include; knowledge about facts and things (termed as declarative knowledge); knowledge about how things are done and the skills and abilities to do them (procedural knowledge and skills) and motivation to act, to use effort and carry on (Barron et al., 2014; Fernandes, Ferreira, Veiga, & Marques, 2019). The idea of customer satisfaction is professed or perceived as a result of the development in the efforts actualized by all functional units. It is described as a psychological effect that originates from a service given by a distinct business establishment as well as the affective and cognitive assessment outcomes, where specific comparison standards are likened to the actual apparent performance (Belz & Peatite, 2012).The satisfaction derived from the products is not only influenced by perceived fairness in the prices and qualities of the products sold by businesses globally (Huff, 2007; Anning-Dorson, 2018), but also on the behaviors of employees, and their capabilities, level of satisfaction, courtesy, and support given by the organizational leadership (Zhuang,& Lederer, 2016).

Clients' needs are fulfilled once they receive more than they anticipated which ultimately results in customer retention. It is a market-driven dimension that explains how and why customers are pleased with the organization's products and abilities. Buyer consummation information which includes surveys and ratings amongst others can assist the company leadership to decide on how best to improve and expand its products range (Anning-Dorson, 2018) An enterprise's central emphasis should be to satiate and mollify its customers. so, it helps in forecasting the markets trends, business growth, and development as well as its revenue. Customer focus, a marketing approach that places clients at the epicenter of the organizational decision-making model is described as a long-term plan that builds trust and customer loyalty. Customer-oriented enterprises make resolutions centered on their effects on the buyers of their products.

Customer-focused firms foster a culture that is dedicated to building robust client relationships as well as boosting their level of satisfaction (Obiefuna, 2014).Karanja and Wairimu (2016) agree that the general performance by organizations today is attributed to the quality of goods/products and services, creativity and innovation leading to new product development and value addition on various products, manpower planning, the satisfaction of customers, effective leadership and management and employee relations among others while the performance of the markets is mainly focused on the ability to market the products and services, growth in sales and the overall profitability of the company. According to the global standards, the overall performance of organizations is used as a pointer in measuring the ability of an organization to meet its set objectives (Yilmaz and Ergun, 2008). The realization of improved efficiency and effectiveness relies on the intention and usage of information systems. Increased effectiveness and involvement in delivering the organizational set strategies may depend on appropriate redeployment and up-skilling of HR staff (Armstrong and Taylor, 2014). This can be evaluated by improved organizational efficiency and effectiveness in goal setting and achievement (Barron et al., 2014).

Organizational performance is based upon the idea that an organization is the voluntary association of productive assets, to achieve a shared purpose or objective (Rezaeegiglo, Sadouni, Arg, Knotbesara, and Eslam, 2014). Yeung and Brockbank, (2015) aver that operational performance tends to produce tangible, identifiable, and measurable results; therefore, IT/IS impact on operational performance can easily be measured. Performance measures can be taken from the outlook of information systems, information technology, and organization among others. The focus should be on if and how systems can be adopted, implemented, maintained, updated, and used. This is purely based on the perspective of information technology and systems. Based on the enterprise perspective, performance measurement should focus on how IT/IS contributes to organizational performance in areas such as sales, production lead-time, inventory turnover and cost, utilization of the available employee capacity, and employee's turnover (Armstrong & Taylor, 2014). Irani and Love (2008) affirm that the value domain of e-government public value for example HRIS in the public sector may be used in benchmarking include efficiency (organizational value); effectiveness (user value) and democracy (political value). The major indicators of efficiency include financial flows with a reduction in overhead costs and staff time saving per case handled as a sample measure, staff empowerment with the percentage of employees bearing ICT skills, and employee satisfaction.

These are used as samples to measure organizational/IT architecture with the redesigned business processes and volume of authentic arithmetical documents substituted used sample indicator (Devara & Kohli, 2010). Parry and Tyson (2011) aver that Human Resources Information System implementations in the previous decade have shifted many organizations from administratively intense paper and pencil HR processes to electronic transaction processing supported by unified computer systems. Employee and applicant self-service, online recruitment, selection and placement, electronic payroll processing, and workflow have drastically reduced transaction costs (Rezaeegiglo *et al.*, 2014). Employee self-service has been stated to have reduced the cost of many HR transactions by more than 50 percent (Tao, Yeh, Rosa & Sheng-I, 2016). Human Resources Information System managers need tools to allow them to identify increased organizational performance as a result of HRIS investments (Obeidat, 2012; Parry, 2011).

This field is growing and investment analysis tools must grow with it. The ultimate reason for conducting a cost-benefit analysis (CBA) is to improve organization efficacy (Noutsa, Kamdjoung, and Wamba, 2017). The objective of this analysis is to make the best decisions in the day-to-day running of organization functions. Using hardware and software should not be the ultimate objective of adopting and implementing HRIS in organizations. These are only meant to achieve the organizationally meaningful outcome (Kemei, 2016). HR managers should be aware of the specific improvements in organizational effectiveness that they expect to achieve from any investment before they can decide to invest in it. The desired outcome should not be to justify a purchase but to be a more effective organization hence achieving their organizational goals (Thite, Kavanagh & Johnson, 2012).

2.4 Empirical Review

2.4.1 ICT Capability and Organizational Performance

A research study by Warui (2016), on the determinants of human resource information systems used in the teachers' service commission's operations in Kenya**,** found out that information technology infrastructure had a converse/contrary outcome on the utilization of HRIS in the processes and overall procedures of Kenya's Teachers Service Commission. Inadequate information technology amenities, as well as insufficient integrated and networked facilities, affected the acceptance and utilization of HRIS. Nevertheless, the existence of an information system that incorporated information from all employees with financial and payroll software was a progressive move towards the utilization of HRIS. Nonetheless, this was the case in all organizations in the public sector where there is the usage of integrated personal payroll data (IPPD). This could not be ascribed to the progression and utilization of the prevailing ICT by TSC (Warui, 2016). The outcomes of the empirical review from this study showed that the inadequacy or inaccessibility of working tools and monetary resources for the sustaining HRIS was a major impediment in the maintenance and sustainability of HRIS and Lack of enough computers together with recurrent and numerous letdowns by the system owing to frail servers that required urgent upgrading as well.

The findings also established the organizational structure extensively affected HRIS utilization, in Kenya's TSC operations. On the other hand, this relationship was frail/weak. The moderating variable reduced the value of R squared while the value increased in the case of internal organizational structure. The study also showed that inventiveness was not heartened in the Teachers Service Commission. More weight was put in refining the prevailing procedures than innovativeness and creativity. This was mainly due to the structure at TSC which is founded on stringent controls by the management (Warui, 2016).

2.4.2 HRIS System Quality and Organizational Performance

A research study by Al-Mamary, Shamsuddin, and Aziati (2013) on the impact of management information Systems adoption in the decision making by the management, scrutiny on this found that the high the system quality the high the information quality. The output of information quality by the PMIS (performance management information system) showed a strong relationship between the service and technical features of the system, which is the quality of the system. Gorla, Somers, and Wong (as quoted by Al-Mamary, Shamsuddin & Aziati, 2013) reinforced that there was a positive relationship between the quality of the system and the quality of information. For effective use of information systems, a system should have and embrace comprehensible and up-to-date technologies when presenting information to the users.

This should also be in a format that is easily understood in order to enhance efficiency and effectiveness at the workplace. Ifinedo (2011) maintained that the quality of advanced ERP (Enterprise Resource Planning) systems is strongly associated with the quality of higher ERP system information. Managerial Decision makers' satisfaction is based on the heightened quality of the system and information. Sun (2017) upheld that system quality had a considerably positive effect on the satisfaction of the user. Kitheka (2014) also continued to say that the alleged quality of the system was a very substantial conjecture in the satisfaction of the user. Dulcic, Pavlic & Silic (2012) agreed that system quality is strongly associated satisfaction of the user.

Hussein *et al.,* (2007) specified that IS capability led to higher levels of contentment in the quality of the system and largely the satisfaction of the users. Halawi *et al.,* (2008) pointed out that there was a strong correlation between the satisfaction of the users and the quality of the system in knowledge management systems. Chen & Hsiao (2012) also established that the quality of systems is directly and strongly associated with decision-making process satisfaction by the executives, therefore the proliferation of system quality led to increased satisfaction in the decision-making process. Apparent usefulness was also a result of the heightened quality of the system. Chen, Li & Li (2011) maintained that the quality of the system as professed by organizations is suggestively linked to the professed usefulness of the e-learning system.

2.4.3 HRIS Information Quality and Organizational Performance

A research study by Thite (2013) on technology hitches and prospects as enablers of strategic HRM, agreed with Bamel *et al.,* (2014) who posited that technology usage and advancement can positively change HR function when the focus is on user interface design instead of the potential to automate the services. The former refers to increasing the explicitly the information on job content that ultimately changes or reconfigures group or team relations that reinforce valuable activities. To realize this, Bamel *et al.,* (2014) and Thite (2013) commended that firms should recognize interpersonal, operational, and transformational goals and exercise conscientiousness in the analysis of organizational needs, lay more emphasis on needs of the enterprise rather than technical expertise in running reengineering activities associated with business processes, managing stakeholders prospects and resolve all the challenges encountered during the execution stage and observe closely the fluctuating requirements from the various stakeholders and subsequently institutionalizing technological expertise. To obtain efficaciously ERP software, Verville and Bernadas as cited by Bamel *et al.,* (2014) validated that transparency, structured and user-driven development process, distinct appraisal standards, and trust between the execution team, employees, and the dealers were the main factors towards the realization of this goal.

2.4.4 HRIS Information Security and Organizational Performance

A research study by Zafar, Clark and Ko (2011) on an exploration of human resource management information systems security (2011) explored the potential variations in insight amongst managers and the workforce. This was with respect to general risk management related to breach of security in the adoption and utilization of information systems. Human resource security risk management processes, strategies, rules, regulations, and procedures in two Fortune 500 companies (Company A and Company B). They had numerous security guidelines, procedures, rules, and regulations that had been put into place to maintain the confidentiality of the data and information. There were prime safety concerns that were based on the total mean values of the HRSRM (Human resources security risk management). After further studies were done, they established that there were statistical substantial differences between the SRM (security risk management) and HRSRM insights for Company A. The apprehensions of HRSRM were superior to those of the whole SRM concerns. SRM and HRSRM insights for Company B had no significant difference even though the average mean values of questions related to HRSRM were greater than those of the overall SRM questions. They found noteworthy differences in discernments of Company A, whereas, the differences were not statistically significant in Company B (Zafar, Clark & Ko, 2011). These aftermaths provided solid and concrete support necessitating operational and well-timed associations between the HR function, executive management, information systems, and information technology among others. Similarly, it demonstrated that further training, learning, education, and awareness on security systems and issues would be useful to all HR practitioners. This is in the quest to have efficient, successful, well-timed, and effective HRSRM which is based on the business strategy of the entire organization.

2.4.5 Human Resource Information Systems, Top Management Commitment and Organizational Performance

Managerial perceptions of the impact of HRIS on organizational efficiency a study by Kumar (2017), established the following: the efficacy of HRIS in achieving organizational effectiveness hence increased performance, it also brought about employee satisfaction which was a result of effective human resource management leadership. Kumar (2017) believed that managers were not always satisfied with the acceptance and utilization of HRIS and found out that HR directors were generally satisfied but do not see the many benefits received by the organization from the usage of HRIS apart from its effectiveness in the processing of information and information sharing.Johnson & Guental (2011) are of the view that the HRIS should be coupled with greater expectations from the employees for more data and information and improve its ease of access. This could ultimately lead to managerial satisfaction with the system.

Managerial satisfaction with HRIS can also be affected by the detachment it creates between HR and the workforce. Managers are often used to working with HR professionals on a face-to-face basis and may find it challenging to use an online platform to seek answers to their questions on tasks accomplished. Undoubtedly, the HRIS enables more HR content to be made accessible online and other administrative tasks are assigned to the employees to manage; hence, the need for HR staff is significantly reduced. This weakens the relationship between HR managers and the organization and could lead to employee dissatisfaction due to poor relationships (Johnson & Geuntal, 2012; Sergio *et al.,* 2010). Johnson & Guental (2012) emphasizes that a new HR system is comprised of new skills and roles for HR staff in all organizations; HR staff tends to focus more on multifaceted HR policy decisions and omissions which may have deleterious financial implications to the company so effective leadership provided by the top-level management commitment is necessary to mitigate these flouts (Kagio, 2012).

Shani and Tesone (2010) agree that the HRIS works well with routine administrative tasks but cannot perform complex or sensitive employee issues. Hence, the level of expertise required for a successful HR career will increase over the years and the profession will gradually be categorized into: first, experts' content who make use of HRIS to offer the business precise knowledge on information systems, second, HR generalist, who will focus more on organizational effectiveness (Daft, Kendrick & Vershinina, 2010). This future of the HR professionals could lead to managers' displeasure with the usage of HRIS. This is due to the uncertainty and the changing nature of the work and tasks performed by the HR professionals. Therefore, the executive commitment is instrumental in clearing qualms brought about by espousal and the realization of HRIS initiatives at the organizational level (Kavanagh & Thite, 2012).

2.5 Critique of Existing Literature Review

The studies gauged in the empirical reviews process ascertained as appropriate to the research work formed the center of the critique. First, a study by Otieno, (2016) on the influence of Human Resource Information Systems on Organization Performance: a case of United States International University-Africa concluded that human resource information systems have significantly enriched the workforce capability in addition to executives' admission to employee data. Most remarkable advances were predominantly eminent in a drop of time consumed on the recruitment and inputting data; condensed costs of printing for job advertisements done via virtual career ads besides substantial reduction in the communication time. It was inferred that HRIS had significantly enhanced organizational performance in that particular institution of higher learning. Imperative enhancements were witnessed in the management of a huge number of employees through the enhanced efficiency, heightened coordination of activities between the HR department and other functional units. Moreover, boosted sustainable competitive advantage, a substantial reduction in the time spent on HR projects, improved service delivery, quick access to information in addition to enhances social interaction levels amongst employees contribute to revitalized workforce.

The study adopted employee self-service, access to human resource data, and manager self-service as study variables contrasting this research work that adopted ICT capability, HRIS system quality, HRIS information quality, HRIS information security, and top management commitment as the moderating variable. Otieno (2016) adopted a descriptive research design that agrees with this study's research design. Second, Oyagi and Mjomba (2021) in their scholarly work on the Influence of Human Resource Information System on Organizational Performance in Tanzania; A case of Zanzibar Ports Corporation concluded that human resource information system has a positive influence on organizational performance through the facilitation of the strategic decision-making process, program and policy evaluation, and analysis or regular operational concerns, provision of information on recruitment and retention strategies, amassing superior information that is used by the executives to add value to the decision making process, increase HR attractiveness through the development and enhancement of HR operations, fast-tracking dissemination of information, change facilitation, minimizing administrative workload as well as monotony at work.

The study adopted a case study research design with quantitative and qualitative research methodologies besides the quality of information study variable to fashion the relevance of HRIS in all business establishments. This study was corroborated by Kaygusuz, Akgemci, and Yilmaz (2016) who found out that HRIS influences organizational performance through the provision of meaningful and resourceful information besides competent employees and associated facts which are acknowledged as essential and strategic factors of production for businesses establishments in the big data eon. These are acquired, fashioned, prescribed, pooled, and employed in the management of strategic processes through the advocacy of information technologies. In addition, the scholarly work showed that HRIS contributed positively to the firm’s proficiency and ultimately employee performance. The research work was further reinforced by a study by Sergio *et al.,* (2010) who perceived that HR functions laden with quality infrastructure in a human resource information system facilitate swift decision-making which leads to the growth, development, and HR management as it eases the storage, modernizing, categorizing and the analysis of the data.

Third, Yilmaz, Akgemci & Kaygusuz, (2016), from their study on the impact of HRIS usage on organizational efficiency and employee performance: research in the industrial and banking sector in Ankara and Istanbul cities deduced that manifold impression of HRIS on the firm's efficacy and performance apotheosis the necessity to steer the execution of an operational HRIS. The dependent variables included organizational efficiency and employee performance with organizational efficiency as the intervening variable while this study adopted ICT capability, HRIS information quality, HRIS information security, HRIS systems quality as dependent variables, and top management commitment as the study as moderating variables. To safeguard HRIS's constructive impact on all employee functions, the system needed to be synchronized with all basic HR functions such as reward management and performance management systems. The impact of cash flow management systems can be boosted by assigning a supervisor in each functional unit, training them on system usage to provide support and guidance to the workforce in the quest to achieve competitive advantage.

HR functions must be effected successively to safeguard the obtainability of antique data on a central drive and to deliver a complete return on investments (ROI) made in HRIS. To build a positive impact on the management of time, the system needs to be user-friendly, and easy to steer to meet the requirements of all functions of human resources. The satisfaction of management with system use can be enhanced through sharing of information while making available HR contact information in the system. In addition to effective management of HR functions, having a suggestion panel utility feature to parade high-level conspectus facts that facilitate effective decision making at the strategic level as well as achievement of short-term organizational goals. This was held by a comparable scholarly work done by Teotia (2012) who suggested key reasons extenuating why business establishments should utilize HRIS fully and included improving organizational attractiveness through the expansion of HR processes, generating all-inclusive HRM reports, transposing management of HR role in strategic human resources management, restructuring the entire HRM division and chances to use human resource information systems in joining forces to fast-tracking the premeditated decision-making process, in addition to policy valuation and daily operative stuff.

Fourth, the study by Noutsa, Kamdjoug, & Wamba (2017) on the acceptance and use of HRIS and its influence on organizational performance of SMEs in a developing economy: The Case of Cameroon was aimed at identifying the pertinent features that stimulate the acceptance and usage of HRIS in Cameroonian firms, and their effect on organizational performance. By drawing on the present germane literature, several factors were identified and studied against outcomes from a survey that they steered amongst twelve human resource managers besides 258 employees from the HR department. Smart PLS 3.2.4 was used to analyze data. The study adopted a hypothetical-deductive (HD-method) approach with quantitative data employed in the study. The researchers also adopted a survey research methodology while the researcher in this study used a census approach. The quality system was found to be the only conjecturer in the espousal of the human resource information system. Moreover, acceptance and usage, in addition to satisfaction of the users suggestively influenced organizational performance.

Contrary to existing study inferences, this investigation revealed that HRIS was not adequately executed within business establishments. These rare findings proposed that practitioners, largely small and medium-sized enterprises, need to install HRIS to manage competition as well as make the best use of it to empower employees. This study agrees with Ankrah, & Sokro, (2016) who asserted that HRIS aids managers in getting quality information that boosts the process of decision making, a plea for amplified efficacy of HRIS data processing which underwrites its legitimacy for all organizations regardless of its scope. Such computerizations of organizational tasks are key chauffeurs for HR managers who need to focus more on strategic capacity-building initiatives. Fifth, the deduction pinched on the study by Warui (2016) on the determinants of human resource information systems usage in the Teachers' Service Commission's operations in Kenya, is that the involvement of the management had a substantial influence on the use of HRIS in the processes of TSC - Kenya. The study used management participation, infrastructure, and internal structure as dependent variables with the external environment as the moderating variable.

The research methodology used was exploratory research design which is dissimilar to this research work's design which is descriptive. From the investigation, it was construed that no official policies and procedures were available to chaperone the use of HRIS at the organizational level. The executive attitude had a negative influence on the usage of HRIS. In addition, inadequate resources to install satisfactory infrastructure to cover all TSC offices countrywide thus dissuading efficacious usage of HRIS. Moreover, this study found that managerial involvement had a bigger influence on the usage of HRIS than other study variables. The executives did not lead the change process that occasioned the inauguration of HRIS and failed to incorporate ICT with other directorates. This study corroborated Vries *et al.,* (2009) findings that inferred that there was a need to emphasize on concomitant professionalism of HRIS roles and that investment in ICT required executives' commitment to providing adequate support, infrastructure, operative training, as well as prolongation of the same.

Sixth, Kassim, Ramayah, & Kurna, (2012) study, of the antecedents and outcomes of Human Resource Information Systems (HRIS) use revealed the attitude-system use association in the milieu of the adoption of HRIS technology.It presented the affirmed innovation features that influenced the scope of the usage of HRIS systems and defined the accomplishments of the usage of human resource information systems by HR specialists. Gardner *et al.,* (2003) agree with Kassim, *et al.,* (2012) who established that HR practitioners were able to deliver amplified information receptiveness to the internal and external customers as they worked besides acting independently when managing evocative information. The findings support the hypothesized impact proposing that with widespread usage of information technology, human resource responsibilities are further computerized making human resource specialists more resourceful through their approachability and self-sufficiency. Gardner *et al.,* (2003) affirmed that meaningful outcomes that designate higher levels of extensive use of information technology led to notable changes in the human resources profession; they further proposed that there was a significantly additional modification to be clarified. Hence it was in the offing that more factors would influence the association between the usage of information technology and HR specialists’ roles.

Lastly, this scholarly work has delivered certainly added perspicacity to the association concerning a person's attitude and degree of HRIS espousal in the Malaysian angle. It proposes that the attitude of various individuals as measured by observed innovative features in this study were significant, rational, and well-grounded, and this influenced the scope of the usage of human resource information systems. To sum up, this study agrees that information technology can lead to insightful modifications like proficient effort through such pieces of machinery as decreasing monotonous roles while permitting better information receptiveness to customers besides giving more independence regarding the management of information. For example, HR experts in the research study were being connected to more externally specialized contacts as a result of better IT usage, permitting better acquaintance with innovative thoughts and concepts.HR experts spent more time on information technology sustenance initiatives thus suggesting the acquisition of enhanced capability to craft further ICT-based human resource applications, thereby hypothetically promoting the transformative impact projected by Zuboff's theory. Hence the results have key implications for the theory and practice.

2.6 Summary of Literature Reviewed

This reviews of the literature on the influence of Human Resource Information Systems on organizational performance in Commercial State Corporations in Kenya. The chapter brought together ideas, narratives and descriptions gyrating on the relationship between organizational performance and human resource information systems. This was aimed at providing background and context for the research study. Different theories and a model linked to the variables of the study were highlighted, emphasized, and reviewed through the innumerable empirical studies that the research study examined. Previous studies were referred to and the chapter concluded with the research gap in the literature reviewed.

2.7 Research Gaps

Several gaps arose from the literature reviewed by this study, among them theoretical, conceptual, and knowledge gaps.

Kenyan government has invested profoundly in state corporations as they act as drivers/ enablers of the social, economic, and political growth of the country besides, the huge expectations from the citizenry, development partners, the government, management, and employees of these corporations/ parastatals. Their overall organizational performance can be measured in terms of employee productivity, efficiency, service delivery, and value for money invested in them. More needs to be agreed on, understood and done by the various stakeholders if these state corporations are to achieve their goals. The literature reviewed shows that studies showing the relationship between organizational performance and human resource information systems have been done in the banking industry, telecommunication industry, private charted universities, and public chartered universities among others.

Limited studies have been done on commercial state corporations in Kenya. To extricate the determinants in the adoption of human resource information systems have used variables in the available literature included; e- training and development, e-recruitment and selection, e- payroll management, e- performance management, external business environment, internal organizational structures, and IT infrastructure among others. There is a gap on how human resource information systems influence organizational performance in commercial state corporations in Kenya. Various studies on the performance of Kenyan state corporations have used different theories and models to speculate the causes of the poor/under performance of these state corporations. None has investigated the moderating role of top management commitment on the relationship between human resource management information systems and the performance of commercial state corporations in Kenya. Regardless of the exertions and recommendations from the preceding research studies the state corporations in Kenya have continuously presented a poor performance in general. Therefore, the study will give more focus on the missing gap to give appropriate recommendations to the policymakers as well as the resource allocators in commercial state corporations on how they should put more effort/work in ensuring that adoption and implementation and/or utilization of HRIS are effectual, successful and fully operationalized to enhance/boost/improve organizational performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter covers the research methodology and design adopted by the research study. It comprised of seven sections which included; research philosophy, research design, target populations, sampling frame, sample size and technique, data collection procedure and tools as well as data analysis and presentation of the research.

3.2 Research Philosophy

Social scientists agree that empirical research is dominated by three principal approaches namely positivism, interpretivism, and pragmatism (Kasi, 2009). The philosophy should be based on objectivity, impartiality, measurement, and validation of research outcomes (Creswell, 2014). This scholarly work was guided by the positivist philosophy which lets the scholar make numerous presumptions/ deductions. Positivism insists that any dependable and realistic facts or knowledge should allow for authentication and that in its entirety reliable information shoulders that the only usable facts have to be scientifically proven (Babbie, 2016). Positivist epistemology holds that only proofs that are a derivative of a systematic and authentic process can form the basis for valid knowledge assertions (Alarcon & Sanchez, 2015). It sticks to the understanding that only accurate information got from observation together and mensuration is worth noting. In positivism research studies the duty of the scholar is restricted by the collection, analysis, and interpretation of data via objective methods. Additionally, the findings from the research work should be discernible, observable as well as quantifiable (Creswell, 2014). The ideologies of positivism rest on observations that can be quantified and analyzed statistically. In addition, the positivism philosophy agrees with the pragmatist opinion that facts emanate experiences shared by human beings (Sekeran & Bougie, 2010).

This scholarly work agrees with the features of positivism that acknowledge that only factual and observable occurrences follow a deductive theory. In positivism, theories deliver the base for exploration, allow for the extrapolation or prediction of an occurrence, thus letting it be managed (Creswell & Pablo-Clark, 2011). The investigator perceived the facets of positivism, kept on being neutral while making deductions and interpretations from the statistical probe of the influence of human resource information systems sub-systems of ICT Capability, Information security, Information quality, and System quality on organizational performance in commercial state corporations in Kenya.

3.3 Research Design

Cooper and Schindler (2011) cited that research design is the framework that is aimed at assisting the scholar to realize the objectives of the study and the reactions to research questions involved as well. The study advocated for descriptive research design since takes a problem under investigation with a diminutive to no significant and/or important facts and offers it an appropriate explanation via quantitative as well as qualitative research methods. Additionally, the study further employed cross-sectional design to further explain the variables in question. Glen (2016) reaffirmed that cross-sectional studies that are descriptive in nature make available quantitative data that describes the standing of occurrences and/or the relations amongst them at a given point in time.

Descriptive research aims to accurately describe a research problem. Descriptive research design is largely probing and emphasizes more on a specific variable strand or factor (Hesse-Biber, 2010). It is methodical, systematic, and regularly picks on a variable element or distinct theme and goes into fine points of delineating it (Neuman, 2011; Zimkund, 2010). The research work further embraced descriptive research design that delivered a framework for surveying contemporary situations, inclinations as well as the standing of occurrences (Creswell & Pablo-Clark, 2011). Descriptive research design is to a greater extent an analytical statistical method and centers momentously on an individual variable factor.

Midiwo (2015) in her scholarly work on the influence of human resource information systems on performance in public universities in Kenya adopted descriptive research design, validity and reliability test, ANOVA, hypothesis testing (t-test) and so demonstrated that the research design tools remained efficaciously authentic in gauging the data collected. The scholar justified the usage of a descriptive research design since it is definitely as opposed to exploratory. In addition, the study incorporated a descriptive survey and correlation plan in finding out the collaboration and influence amongst dependent variables, organizational performance in commercial state corporations in Kenya and independent variables, ICT Capability, HRIS Information security, HRIS Information quality, and HRIS System quality as stipulated in the conceptual framework on Figure 2.1 in the chapter covering literature review. Creswell (2014) avers that descriptive research design is a scientific method that encompasses descriptions and observations of the subject behavior and as Creswell (2014) acknowledges that descriptive studies remain prevalent in social studies as well as business research for its resourcefulness and adaptability in several disciplines.

3.4 Target Population

Neuman (2011) avers that the target population is the concretely specified large group of many occurrences from which a researcher draws a sample and to which the outcomes of a sample are generalized or those people, events, or records that contain the predictable truths about the study that determines whether a sample or a census was selected (Cooper & Schindler, 2011). The focal point of the research study was Kenya's Commercial State Corporations. The unit of analysis of the study was 55 strategic and pure commercial state corporations in Kenya according to the Report of the Presidential Taskforce on Parastatal Reforms of 2013. The units of observation were chief executive officers (strategic managers), directors and deputy directors of the human resources functional unit assumed to be the experts in the field of human resource management (Glen, 2016).

This classification was borrowed and modified from existent research by Troshani *et al.,* (2011) which explored the acceptance and operationalization of HRIS in Australia's public sector. The sample population which formed the sampling frame was attained through a census method. Thus, the sample size was equal to the target population.

3.5 Sample and Sampling Techniques

This section pointed the sample frame as well as the sampling techniques.

3.5.1 Sampling Frame

Cooper & Schindler (2011) affirm that a sample frame is a list of essential elements within a population from which the sample is drawn which may include institutions and individuals among others. A sampling frame was developed using a list of both strategic and pure commercial state corporations in line with the Report of the Presidential Taskforce on Parastatal Reforms of 2013.The target population was relatively small, inhomogeneous and so the study adopted a census method of data collection as it would assist in collecting accurate data concerning every unit before conclusions of the study are drawn. Each Commercial State Corporation has relevant features that were a source of information. The sample comprised of 165 respondents drawn from both Pure and Strategic Commercial State Corporations as shown in Appendix V.

3.5.2 Sample Size

Mugenda (2008) avers that a sample size determines the precision with which population values can be estimated. Therefore, experts emphasize that the sample size had to be reasonably large to obtain accurate estimates of population parameters. The sample size was equivalent to target population focused by the research study.

3.5.3 Sampling Techniques

Sekaran and Bougie (2013) affirm that sampling is the procedure/process of choosing an appropriate sum of essential elements or units such as individuals and organizations from a given population. This is because a sample study and the indulgence of its features would enable the researcher to take a broad view of the features of the essential elements in the population. To make it possible to survey the entire population of Kenya's Commercial State Corporations, a census method was used. Respondents were drawn from human resources functional units and the strategic level on management. Bryman, (2012) agrees that the census method or the complete enumeration survey (CES) method is the process of studying or obtaining responses from every unit of the study population (Majid, Othman, Mohamad, Lim, & Yusof, 2017).

3.6 Data Collection Instruments

The study used interview guides and structured questionnaires which were dropped and picked by the researcher as a way of collecting data. Sekaran and Bougie, (2013) avers that a questionnaire is a means of obtaining the feelings, beliefs, experiences, perceptions, or attitudes of some sample individuals. The questionnaire contained close-ended questions presented on a five-point Likert type measurements scale (appendix II). The questionnaires were modified to include all relevant queries on the influence of Human Resource Information systems on organizational performance. The main respondents from the CSCs filled out the questionnaire. The questions as shown in Appendix II were designed to elicit relevant notions, ideas, and opinions regarding performance and human resource information systems in their organizations. Questions relating to ICT capability, quality of the system, quality of information, commitment of the strategic managers, in addition information security were probed in the questionnaire. A semi-structured interview schedule was also used to gather more information that was relevant to the study. An interview schedule comprises of pre-coded questions that are aimed at yielding quick, cheap, and easy quantitative data which is high in reliability but low invalidity.

Primary data was necessary for this research as it aided in enhancing precision in terms of eliminating errors and bias (Kothari, 2014). Interviews are predominantly beneficial in getting to understand and learn from the participants' experiences. The interviewer was, therefore, able to trace and collect in-depth information about the topic. Interviews are used as a follow-up to questionnaires from some respondents to further examine their responses (Kasi, 2009). For secondary data collection, data was picked from the websites as well as the presidential report on the Parastatal reforms of 2013. Document and trend analysis were employed to gain in-depth knowledge of organizational performance in the said corporations. Glen (2016) affirms that document analysis is described as a method of qualitative research that adopts a logical and organized approach to exploring textual or documented suggestions to riposte explicit questions in research while trend analysis outlines a methodological scrutiny that forecasts impending and imminent performance of products and services which are grounded on freshly pragmatic tendency data (Thomas, 2021).

3.7 Data Collection Procedures

After carrying out the pilot test and making all the necessary modifications to the questionnaire, one research assistant was recruited and trained to assist the researcher in collecting data so that the study could yield quality results. The questionnaires were administered to the chosen respondents and various interviews were carried out. This was made possible by a permit to carry out research given by the National Commission for Science Technology and Innovation (NACOSTI), an introductory letter from the university, and a letter from the Ministry of Education. Follow-ups were made via phone calls to keep track of the respondents and ensure that the questionnaires were filled on time. Duly completed questionnaires were collected by the researcher and used data analysis.

3.8 Pilot Testing

Cooper and Schindler (2011), aver that pilot testing is intended to make known the errors that could have been left out during the formulation of the instruments for collecting data.

It can also be described as an investigational way of collecting data so as to enable the researcher to detect the errors that could be present in the instruments of data collection (Neuman, 2011: Thomas, 2021). A pilot testing was done on the instrument using three respondents from six (6) commercial state corporations (10 % of the sample) that were covered in the actual research. Sekeran (2006) agrees that pilot testing is done to test the validity and reliability of data collection instruments. This was done in order to find out how the respondents would react to the questions on the questionnaire; whether the questions were clear to the respondents or if they could be understood easily. In addition, there was the need to include more questions as well to determine the feasibility of the suggested methods of analyzing data. After the pilot test, the researcher modified the questionnaire so that it could yield quality data for analysis. Cooper and Schindler (2011) continue to say that pilot testing is intended to make known the errors that could have been left out during the formulation of the instruments for collecting data.

It can also be described as an investigational way of collecting data so as to enable the researcher to detect the errors that could be present in the instruments of data collection (Thomas, 2021: Majid, Othman, Mohamad, Lim, & Yusof, 2017). Interview questions contained in an interview guide are heart/center of any valid and effective interview process. Likewise, an in-person interview, extensively recognized as an appropriate procedure for all qualitative inquiries, searches for insights from individuals who have experienced and/ or are experiencing the spectacle. Thus, piloting of interviews is fundamental in testing the questions as well as gaining pertinent practice in the interviewing process (Thomas *et.al*, 2017). In Research studies, Pilot studies are ordinarily linked to quantitative methodology used to test specific research instruments. Apparently, the prominence of pilot tests has lately been stretched to capture qualitative inquiries and it is done in preparation for the main research study/work. Pilot studies are valuable measures taken as preparation for a full-scale research investigation, irrespective of the paradigm/prototype.

Additionally, in Castillo-Montoya's (2016) pilot study on the "*Preparing for interview research: The interview protocol refinement framework*," the researcher affirmed that interview procedures could be reinvigorated via the piloting of the interviews. It assists in the identification of flaws, weaknesses, and shortcomings in the interview design and organization that call for critical amendments to the major study (Thomas *et.al,* 2017). This was done in order to find out how the respondents would react to the questions on the questionnaire; whether the questions were clear to the respondents or if they could be understood easily. In addition, there was the need to include more questions as well to determine the feasibility of the suggested methods of analyzing data. After the pilot test, the researcher modified the questionnaire so that it could yield quality data for analysis.

3.8.1 Validity of Research Instruments

The questionnaires employed by this study were subjected to content validity as well as face validity to ensure that they were standardized (Cooper and Schindler, 2011). Validity in research explains how well the data collected covers the definite area of study. Taherdost (2016) avers that content and face validity can be described as follows; a pilot test is said to have face validity if the content of the research instrument essentially seems adequate and relevant to the person taking it. It goes ahead to gauge the appearance of the questions in the questionnaire in terms of their readability, feasibility, formatting, dependability, simplicity and clarity in terms of the language used to communicate to the respondent. Content validity involves the assessment of a survey data collection instrument to make sure that it includes all the necessary items or questions required in the research study. As a result, it eliminates unwanted items or questions to a specific construct domain. To increase the content validity of the questionnaire the following things were done; the questions in the questionnaire and the interview guide in other similar research studies were studied and close examination of various journals, relevant books and models regarding this research issue was done. In addition, consultation from experienced and knowledgeable people in the field of human resources and human resource information systems was also done (Zikmund, Babin, Carr & Griffin, 2013).

3.8.2 Reliability of Research Instruments

Reliability is the extent to which data collection techniques or techniques produce dependable findings and comparable observations made and /or conclusions reached by other researchers. In addition, it helps to understand if there was transparency in making sense out of the raw data (Saunders, Lewis & Thornhill, 2009). There are various approaches that can be adopted/used in testing for the reliability of a research instrument. The first approach involves giving the questionnaire two times under similar conditions and observing keenly to see if comparable results will be obtained, for instance, the calculation of the coefficient of correlation (Neuman, 2011). This is referred to as the test-retest reliability of the item. These similar conditions could mean having the same individual being subjected to the same condition, for instance, measuring intentions, beliefs, and/ attitudes could affect the results as individuals/ respondents are likely to change their minds more often which could bring about various challenges. The second technique involves probing the reliability of the research instrument which involves looking for consistency within a particular measurement. The methods used in this approach include the split-half method and Cronbach's alpha (Creswell, 2014). Cronbach's alpha estimates the extent to which the research instruments are homogenous and replicate the same underlying constructs using specific correctional formulas (Gareth *et.al*., 2017).

This study used Cronbach's alpha in SPSS. The suggested threshold for adequate reliability is 0.7 (Zafar, Clark & Ko, 2011) which the study achieved. The Cronbach's alpha reliability coefficient normally ranges between 0 and 1. The nearer the Cronbach's alpha coefficient is to 1.0 the bigger the internal consistency of the items in the scale (Sekeran, 2006). Cronbach's-alpha is a method adopted broadly in business and social sciences research studies. The data collection instrument has questions or items which are tallied on a wide range of values in which the reactions from the respondents are in a scale that is Strongly Agree=5, Agree=4, neutral-3, Disagree=2 and Strongly Disagree=1) as it reflects on the variance of each research item on the data collection instrument (Zikmund, Babin, Carr & Griffin, 2013).

Gareth *et.al.,* (2017), affirms that when the scoring of the research items is not involving two completely opposite ideas or ideas that are dichotomous in nature, then the best way of approximating the reliability is by the use of Cronbach's alpha. The typical and/standard formulae of the Cronbach alpha is

$$\propto = \frac{N.C}{v + (N-1)c}$$

Where:

α = Cronbach Alpha

N= Number of items

c bar = Average inter-items covariance among the items

v bar = Average Variance

3.9 Data Analysis and Presentation

The main objective of the research study was to yield quality results from both quantitative and qualitative data. Consequently, inferential and descriptive statistics were used for data analysis. The questionnaires were collected from the respondents and then coded. Editing was then done to attain completeness and consistency in the data. Each response from the questionnaire was entered into software for analysis. After the data was cleaned, edited, and coded, it was then subjected to analysis using descriptive statistics which included means, percentages, frequencies, and measures of dispersion among others. In addition, descriptive analysis, factor analysis (FA), validity tests, reliability tests, and correlation were done using Statistical Package for Social Sciences (SPSS) version 23.0. Data analysis was then done to define the tendencies and patterns which were fundamental to the responses from the items and to establish how HRIS influenced organizational performance. First, the data collected was subjected to factor analysis.

Gareth *et al.,* (2017), agree that factor analysis is done to detect not-directly-observable factors based on a larger set of measurable pointers or variables. Taherdost (2016) affirms that the amalgamation/combination of quantitative and qualitative methodologies ensues through; at the outset, augmentation of quantitative upshots with a qualitative method, edifying qualitative outcomes to a quantitative element while unifying quantitative and qualitative upshots, or entrenching a methodology in another. The use of a permutation of quantitative and qualitative data can increase an appraisal through safeguarding the confines of one category of data which is balanced by the strong suit of the other (Johnston, Kelvyn & Manley, 2017; Creswell, *et al.*, 2018)

It identifies the underlying factors that describe the correlations patterns in a given set of observed variables (Balasundaram, 2009). Kothari & Garg (2014) aver that the least conceivable loading needed for interpretation of data is 0.33. Factor analysis of the variables was done to find out the relationship between HRIS and organizational performance in Kenya's commercial state corporations. This also aided the refutation of some traits which could be highly correlated and therefore guarantee the validity of the variables adopted by the research study. Consequently, reduction of data into an appropriate number of factors to allow for further analyses was achieved. Normality of data was decided using the Kolgomorov-Siminov test, to check for normal distribution of the data collected regarding organizational performance which was used as the dependent variable. It is advisable to carry out normal distribution of data of the dependent variable and therefore for it to be achieved a normal test is done which should fit the multiple regression model (Ghasemi & Zahediasl, 2012). After data screening achieved its intended purpose, preliminary descriptive analysis for all the research variables was done using SPSS Version 23.0. Mean was used for descriptive analysis. This approach provides modest and reliable summaries of the sampled data. It continues to give quantitative descriptions of the data in a more appropriate manner which aids the generalization of results (Marija, 2008). The adoption of inferential statistics for further analysis was also done.

Regression analysis, the analysis of variance (ANOVA), and correlation analysis were performed using SPSS version 23.0. 5% level of significance was used for this data analysis. Correlation analysis was done to establish the association between the dependent and independent variables. Similarly, it expedited the hypotheses testing to confirm the degree of the association amid the variables adopted in the study. The primary intention of performing these correlations was to let the research study predict the deviation of a variable from the normal (Onwong'a, Mamati, Kangu & Osongo, 2010). The correlation coefficient, denoted as (r) was adopted to establish whether there was a strong association among the variables used in the study. Kothari & Garg (2014) avers that the Pearson product-moment coefficient of correlation is a statistical measure of the strength of the relationship between two variables which must be ratio or interval measurements or the linear association between the independent and dependent variables.

It can take a range of values from -1.0 to +1.0. Zero indicates that there is no relationship between the variables of the study. In positive correlation, the variables tend to increase while in negative correlation suggests that the variables tend to decrease. Data interpretation is based on these values (Mugenda, 2008). Kothari (2008) avers that regression and correlation analysis measures the association between paired variables. Preceding studies on the association between organizational performances, employee performance, and employee productivity and human resource management practices employed multiple regression as well as correlation analysis (Mose,2017) to decide the significant association between independent, dependent, and moderating variables. This explains why bivariate correlation analysis and multiple regression analysis were adopted by this research study. Regression analysis is a statistical method used to estimate the association between variables that have a cause-and-effect relationship. The key emphasis of univariate regression models is to analyze the association between a dependent variable and independent variables and formulate a linear relation equation between them.

Regression model with one dependent variable and more than one independent variable is referred to as multilinear regression models. (Uyanik and Gulleer, 2013) thus this research study adopted this statistical model. Multiple regression models were used to determine the causal relationship between Human Resource Information Systems and organizational performance. Zikmund, Babin, Carr & Griffin (2013) confirm that multiple regression analysis is one of the most widespread methods of data analysis that is employed in social sciences and business studies to explore all forms of independent relationships. Nguyen (2009) emphasizes that regression analyses are also done to envisage the comparative test of the research hypotheses. The most commonly used multiple regression model is $Y= \beta 0 + \beta i Xi + \varepsilon$ where $i = [1, 2, 3, 4]$. Organizational performance of the commercial state corporations was regressed alongside the following variables of human resource information systems namely ICT capability, system quality, information quality, and information privacy and security. The regression model for this study was expressed as follows:

$Y= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$ ……...**Equation 1**

Where:

B_0 = constant,

$\beta_1 - \beta_4$ = intercepts for the independent variables,

Y= Organizational Performance,

X_1= ICT capability, X_2= System quality, X_3= Information quality, X_4= Information security

ε = error term.

The weighting of the independent variables is performed to come up with regression variates that give details on the comparative contributions to the dependent variable (Creswell, 2014; Helm & Mark, 2010).

This analysis was carried out in two major stages human resource management constructs were placed into the equivalence as reaction or response variables while organizational performance was used as the dependent variable in the multiple linear regression analysis. Secondly, the top management commitment moderating effect was tested. The model of moderating effect of a research variable tests whether the estimation of a dependent variable, denoted by (y) from an independent variable (x), changes transversely across a third variable (ƶ).

Moderator variables affect the strength and trend of the relationship between an independent variable used in regression analyses to predict another variable and the aftermath of this, is the enhancement, reduction, or change in the influence of the predictor. The effects of moderation are described as the interactions amongst qualitative variables or factors where the effects of one variable are determined by the other variable used in the analysis (Pannerselvam, 2014). The moderating effect of top management commitment on the relationship between human resource information systems and organizational performance was estimated using multiple regression analysis where all predictor variables and their interaction term were centered prior to model estimation to improve interpretation of regression coefficients. The model commonly used in testing the moderating effect of a variable is

$Y= \beta_0 + \beta_i X_i + \beta_i X_i Ƶ + \varepsilon$

The test hypotheses model adopted by this study was

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 Ƶ + \beta_6 X_1 Ƶ + \beta_7 X_2 Ƶ + \beta_8 X_3 Ƶ + \beta_9 X_4 Ƶ + \varepsilon$……..……. **Equation 2**

Where:

β_1 is a correlation coefficient relating the independent variable, X, and the product, Y, when

$Ƶ= 0$

β_5 is a correlation coefficient relating the moderating variable, Ƶ, and the result when X = 0

β_0 the intercept in the equation

ε is the residual in the equation.

Analysis of Variance (ANOVA) was employed to find out whether the full model adopted by the study showed a significant fit of the data and consequently formed the significance tests significance. ANOVA is a statistical test employed in detecting the variations in group means when there is a single dependent variable and several independent variables. It is based on general linear models and multiple linear regressions to measure the association between a dependent variable and the independent variables (Mugenda, 2008; Cooper & Schndler, 2011). Presentation of data was done through distribution tables to ease understanding of the same. To assess the effects of the moderating effect of top management commitment, Moderated multiple regression (MMR) was performed. (Marija, 2008) asserts that a Moderated Multiple Regression (MMR) analysis is a statistical test that likens two varying least-squares regression equivalences (Baron and Kenny 1986; as cited by Helm & Mark, 2010).

MMR analysis was performed to relate the moderating effect of the top management commitment which was examined by interpreting the change in R^2 in the models attained from the reviews on the model so as to test the hypothesis that top management commitment has no moderating effect on the relationship between human resource management information systems and organizational performance. Test for the hypothesis was done at a 5% level of significance besides SPSS run to predict the outcome. Mose (2017) conducted a research study that involved the analysis of a moderating effect, adopted the use of moderated multiple regression (MMR). In addition, F-Test (ANOVA) was conducted to establish whether there were mean differences in performance across the Commercial State Corporations under the various ministries.

3.10 Diagnostic Tests

These tests describe the wholeness or completeness and sufficiency of the data collected and analyzed in the research study. Diagnostic tests are tests that are used to test for the non-zero mean of the error term. This means that it tests indirectly whether the regression model has been correctly specified in terms of the regressor that have been used or included (Gujarati & Porter, 2009; Johnston, Kelvyn & Manley, 2017). These tests include heteroscedasticity, multicollinearity, normality, autocorrelation, and linearity among others (Johnston, Kelvyn & Manley, 2017).

3.10.1 Test for Normality

Normality tests are meant to calculate the probability that the sample is drawn from a normal population. Statistical tests for normality mainly establish if data sets are correctly modeled through normal distribution while figuring out how possible it is for a random variable that is core to the data set is strewn or dispersed normally. A normal distribution recognized as Gaussian, Laplace–Gauss distribution, or Gauss, is a kind of continuous/ incessant probability dispersion for a real-valued aleatory, stochastic, random variable/ quantity (James, Witten, Hastie & Tibshirani, 2017). These tests can also be used to find out whether the sample data was picked from a population that was normally scattered or else within the similar tolerance levels. Numerous tests in statistics, amongst them t-test and one to two-way analysis of variance (ANOVA), more often than not call for a normally spread sample population (Johnston *et al.,* 2017: Baporikar, 2014). In statistics, normality tests are used to determine if a data set is well-modeled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed. More precisely, the tests are a form of a model of selection and can be interpreted several ways, depending on one's interpretations of probability (Johnston, Kelvyn & Manley 2017). In descriptive statistics terms, one measures the goodness of fit of a normal model to the data, if the fit is poor then the data are not well modeled in that respect by a normal distribution, without making a judgment on any underlying variable (Wooldridge, 2010).

So, when testing for normality: Probabilities > 0.05 mean the data are normal. Probabilities < 0.05 mean the data are not normal. In order to test for normality of this study, Kolmogorov-Smirnov and Shapiro-Wilk were used since they are a more reliable test for determining skewness and kurtosis values of normality. Large probabilities in this study were taken to denote normally distributed data (Johnston, Kelvyn & Manley 2017).

3.10.2 Test for Multicollinearity

Johnston *et al.,* (2017) aver that collinearity refers to a single perfect linear relationship between variables and the term multicollinearity refers to more than one such relationship. Multicollinearity is an unacceptable high level of intercorrelation among independent variables such that the effects of independents cannot be detached (Wooldridge, 2010). In cases of perfect multicollinearity among independent variables, we cannot obtain their exceptional estimates and so we cannot draw any statistical inferences (that is hypothesis testing) about them from a given sample (Gujarati & Porter, 2009). If there is a high degree of correlation between independent variables, we have a problem of multicollinearity. If there is multicollinearity between any two predictor variables, then the correlation coefficient between these two variables was close to unity. In such a situation we should use only one set of independent variables to make our estimate (Kothari, 2008). Olatayo, Fagoyinbo, and Adeboye, (2014) aver that multicollinearity in data is assumed to be a sampling artifact or true reflection of population relationships, it must be considered when data are analyzed with regression analysis because it has several potential detrimental consequence restrictions estimates that dither dramatically with insignificant changes in the sample, parameter estimates with signs that are erroneous in terms of theoretical considerations, theoretically important variables with insignificant coefficients, and the inability to decide the relative importance of multicollinearity variables (Olatayo *et al.,* 2014).

The regression coefficients though determinate, possess large standard errors which imply that the coefficients could not be estimated with great accuracy (Toffallis, 2009). James, Witten, Hastie & Tibshirani (2017) assert that variance inflation factor measures the severity of multicollinearity in an ordinary least squares regression analysis. VIF indicates whether a predictor has a strong linear relationship with the other predictors with concern raised if VIF is above 10 (Field, 2017). When looking for correlations among pairs of predictors alone, could be restrictive. It is possible that the pairwise correlations are small and yet a linear dependence exists among three or more variables that is why VIF is very helpful in detecting multicollinearity (Field, 2017). VIF (Variance inflation factor) was thus used to test for multicollinearity.

3.10.3 Test for Heteroscedasticity

Rezaeegiglo, Sadouni, Arg, Knotbesara & Eslam, (2014) agree that one of the key assumptions of regression is that the variance of the errors is constant across observations. Typically, residues are plotted to assess this assumption (Prabhakaran, 2017). At each level of the predictor(s), the variance of the residue terms is expected to be constant (homoscedasticity), if the variance is unequal, there is said to be heteroscedasticity. Heteroscedasticity is present when the size of the error term differs across the values of an independent variable. The effect of disturbing the conjecture of homoscedasticity is a matter of degree, increasing as heteroscedasticity increases (Williams, 2015). For ordinary least squares; it is presumed that the error terms of the model have constant variance and that they are conjointly uncorrelated. Rezaeegiglo, *et al.*, (2014) affirm that if this is not the case, then OLS (Ordinary least squares) is no longer efficient so that we can get more accurate estimates by applying different methods (Gujarati & Porter, 2009). The study adopted the Breuch Pagan test to detect heteroscedasticity. This is because it tests for heteroscedasticity in a linear regression model. Knaub (2007) also agrees that it continues to find out if the error variance from a regression model is dependent on the values of the independent variable. This test is also designed to identify all linear forms of heteroscedasticity (Rosopa, Schroeder & Schaffer, 2013). The null hypothesis is that the data does not suffer from heteroscedasticity since the p-value is greater than 5%.

3.10.4 Test for linearity

The linear relationship between the independent variables (predictors) and the dependent (outcome) variable were tested using Pearson's correlation co-efficient between the organizational performance and each of the hypothesized explanatory variables as recommended by Chineke and Kapoor (2018). Pearson product correlation is used when both variables that the researcher aspires to study are measured at ratio or interval scales as described by the formula below (Saunders, Lewis and Thornhill, 2009).

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2]\ [n\sum y^2 - (\sum y)^2]}}$$

The correlation coefficient measures the strength of a linear relationship between two variables. Pearson correlation was used to test the relationship and strength of the variables at the significance of 0.05, while the goodness of fit was tested using ANOVA to find out if the variables were fitting. Goodness of fit is a hypothesis test that describes how fastidiously experiential/observed data echoes the anticipated/projected data. These tests can also establish if a data sample trails a Gaussian/normal distribution, if discrete/nominal (categorical) variables are associated, or if samples that are randomly selected from the same distribution (Creswell, & Plano Clark, 2018). The dependent and independent variables move uniformly together meaning there is a perfect direct linear relationship. The correlation coefficient is always between -1 and +1. The closer the correlation is to +/-1, the closer to a perfect linear relationship. The corrections are interpreted as -1.0 to -0.7 strong negative association, -0.7 to -0.3 weak negative association, -0.3 to +0.3 little or no association, +0.3 to +0.7 weak positive association, and +0.7 to +1.0 strong positive association (Kizmund, 2009). While -1 indicates a perfect inverse linear relationship that is y increases u uniformly together. A value of 0 indicates no relationship; in positive relationships as x increases, y also increases (Zikmund, Babin, Carr & Griffin, 2013: Creswell, & Plano Clark, 2018).

3.11 Hypotheses Testing

Kaur (2015) cited that hypothesis testing has a procedure that is based on probability theory and sample proof. It is used to decide whether the hypothesis is a logical statement and therefore should not be rejected, or it is illogical and therefore should be rejected. Refusal to accept the null hypothesis habitually leads to the acceptance of an alternate hypothesis. Avowing Null hypothesis in any statistical analysis is obligatory and it is usually put on paper as a negative assertion. Besides alternate hypotheses (H_1) are largely conveyed as a positive avowal (Thomas, 2021). For example**,** if the null hypothesis is x = y, then the alternate hypothesis will be x≠y→ (Two-tailed) x< y (Left tailed) → (Single tailed) x> y (Right tailed) → (Single tailed) (Bali & Gupta & Gandhi, 2008).

The procedure for testing a hypothesis involves five major steps. First, outlining the null hypothesis and the alternate hypothesis; null hypothesis is meant to declare the value of population framework. An alternate hypothesis is an assertion that is recognized if there is an indication that ascertains that the null hypothesis is not true. Secondly, selection of an appropriate statistical test and a suitable level of significance for example at 1%, 5%, or 10% level of significance was carried out. The z-statistic or z-test is used when testing a hypothesis of a given proportion and the formula adopted is shown below:

$$z = \frac{\hat{p}}{\sqrt{\frac{pq}{n}}}$$

the z-statistic or the t-statistic is used to test a hypothesis of a mean according to these parameters: if the standard deviation of the population is known and either the data is normally distributed or the sample size n > 30, normal distribution is used (z-statistic). When the standard deviation of the population is not known and either the data is normally distributed or the sample size is greater than 30 (n > 30), t-distribution (t-statistic) is used (Pannerselvam,2014). Third, outlining the rules of the decision.

The rules of the decision state the conditions under which the null hypothesis was accepted or rejected. The critical value of the test-statistic is determined by the level of significance. The critical value is the value that separates the reject region from the non-reject region (Pannerselvam, 2014). The fourth step involves working out the appropriate test statistic which is used to make the decision: When the z-statistic, is used the formula shown below is adopted. For t-statistical tests, the formula shown below is adopted.

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}}$$

The computed test statistic is then equated to the critical value. If the computed value is within the rejection region(s), we reject the null hypothesis; otherwise, we uphold the null hypothesis. Finally, inferring the decision; based on the decision made in step four, a conclusion is made based on the original problem and the calculated value is compared with table value (Kaur, 2015).

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter discusses research findings for the data collected from 119 respondents in Commercial State Corporations in Kenya. It has the following sections response rate, data reliability, and validity, factor analysis, descriptive and inferential analysis of dependent variable which is the organizational performance of Commercial State Corporations in Kenya, the four independent variables: ICT capability, HRIS system quality, HRIS information quality, and HRIS information security. Top management commitment was adopted as the moderating variable. The chapter also focuses on the presentation of empirical findings, data analysis, and interpretation of the results. Data were cleaned, coded, and analyzed using the Statistical Package for Social Sciences (SPSS) version 23.0. The analyzed data was organized into themes that reflected the research objectives.

4.2 Response Rate

The number of questionnaires that were administered to pure commercial State Corporation and strategic Commercial State Corporation were 147 (165-18 for the pilot test which were drawn from the same study population). Response rate results were presented as shown in Table 4.1.

Table 4.1: Response Rate

Response	Frequency	Percentage
Responsive	110	74.83 %
Non- responsive	37	25.17 %
Total	**147**	**100%**

A total of 110 were properly filled and returned. This represented an overall successful response rate of 74.83 % as shown on Table 4.1.

This agrees with Babbie (2016) who affirmed that return rates of 50% are acceptable to analyze and publish, 60% is good and 70% is very good. Based on this affirmation 74.83 % response rate was statistically acceptable.

4.3. Pilot Testing

A pilot study was carried out amongst eighteen (18) respondents from six (6) state corporations with three respondents from all state corporation which were part of the main study population. These were later taken away from the sample population of the primary/core study. Babbie (2016) cited that the pre-test sample for any research study should be 10% of the sample size (Rule of thumb). Pretest facilitates the evaluation or assessment of the precision of the research instrument, easiness of use and minimal time during the administration of the instruments. The data gotten from the pilot study was used to assess the validity and reliability of data collection instruments (Sekeran, 2006; Bryman, 2008).

4.3.1 Validity of the Data Collection Instruments

The data collected from the pilot study was used to assess the construct validity of the data collection instrument. Content validity of the questionnaires was guaranteed as the opinion was sought from experts in Human Resource Management Information Systems on the contents of the questions in the questionnaires comparative to the realm of constructs that they are meant to measure. The experts that were considered in this study were Chief Executive Officers, Director Human Resources, and Deputy Director Human Resources of Commercial State Corporations in Kenya. The study also sought the opinion of Dr. Mary Kamaara, Dr. Joyce Nzulwa, and Dr. Kepha Ombui who were study supervisors. The questionnaire was adjusted by replacing questions and rephrasing question statements according to exerts opinions. To obtain content validity index for relevancy and clarity of each item (I-CVIs), the number of those judging the item as relevant or clear (rating 3 or 4) was divided by the number of content experts. The numbers of experts were six. Table 4.2 presents the findings on the content validity index. Polit and Beck (2014) cited that for at least six experts, the acceptable CVI value is at least 0.83.

Table 4.2: Content Validity Index

Qns.	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Total experts who agree	I-CVI
Q1	0	1	1	1	1	1	5	0.833
Q2	1	1	1	1	0	0	4	0.667
Q3	1	1	1	1	1	0	5	0.833
Q4	1	0	1	1	1	0	4	0.667
Q5	0	1	1	1	1	1	5	0.833
Q6	1	0	1	1	1	0	4	0.667
Q7	1	1	1	1	1	1	6	1.000
Q8	1	1	1	1	0	1	5	0.833
Q9	0	1	1	1	1	1	5	0.833
Q10	1	1	1	1	1	1	6	1.000
Q11	1	1	1	1	0	1	5	0.833
Q12	1	1	1	1	1	0	5	0.833
Q13	1	1	1	1	1	1	6	1.000
Q14	1	1	0	1	1	0	4	0.667
Q15	1	1	1	0	1	1	5	0.833
Q16	1	1	1	1	1	0	5	0.833
Q17	1	1	1	0	1	1	5	0.833
Q18	0	0	1	1	1	1	4	0.667
Q19	1	1	1	1	0	1	5	0.833
Q20	1	0	0	1	1	1	4	0.667
Q21	1	1	1	1	1	1	5	1.000
Q22	0	1	1	1	1	0	4	0.667
Q23	1	1	1	1	1	1	6	1.000
Q24	1	1	1	1	1	0	5	0.833
Q25	1	1	0	1	1	1	5	0.833
Q26	1	1	0	1	1	1	5	0.833
Q27	0	1	1	1	1	0	4	0.667
Q28	1	1	1	1	1	0	5	0.833
Q29	1	0	1	1	1	0	4	0.667
Q30	1	1	1	1	0	1	5	0.833
Q31	1	1	1	1	1	0	5	0.833
Q32	0	1	1	1	1	1	3	0.833
Q33	1	1	1	1	1	1	6	1.000
Q34	1	0	1	1	1	1	5	0.833
Q35	1	1	0	1	1	1	5	0.833
Q36	1	1	1	1	0	1	5	0.833
Q37	1	1	1	1	1	1	6	1.000
Q38	1	1	0	1	1	1	5	0.833
Q39	1	1	1	1	1	1	6	1.000
Q40	1	1	1	1	1	1	6	1.000
Q41	0	1	1	0	1	1	4	0.667
Q42	0	1	1	1	1	1	5	0.833
Q43	1	1	0	1	1	1	5	0.833
Q44	0	0	1	1	1	1	4	0.667
Q45	0	1	0	1	1	1	4	0.667
Q46	1	1	1	0	1	1	5	0.833
Q47	1	1	1	1	1	1	6	1.000
Q48	0	1	1	1	1	1	5	0.833
Q49	1	1	1	1	1	1	6	1.000
							Average I-CVI	**0.830**

Based on the above calculation, it was concluded that I-CVI meet satisfactory level, and thus the scale of questionnaire had achieved satisfactory level of content validity (Polit & Beck, 2014).

Construct validity was sought to assess how well the pointers in the questionnaire measured the constructs (study variables). This was based on the pilot data collected. Construct validity was assessed based on factor analysis results. Factor analysis is a data reduction criteria/technique used to reduce a large dimension of observed indicator variables into a few latent constructs (Baporikar, 2014; Kline, 2015). Factor analysis is grouped into: Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA) as well as Structural equation modeling (SEM). CFA is employed when testing the assumptions of existing models and conceptions besides the theories while EFA is employed when searching for latent/underlying/hidden patterns in a data in case of little or no erstwhile knowledge of the variables in question.

EFA is used on a data set to explore the link (variables with high correlation are grouped together) amongst variables in the quest to reduce huge numbers of variables to smaller sets of composite/compounded factors /combination of factors. The concluding composite factors set usually a result of the scrutiny of the relationships in the data sets and promulgation of the associations (if any). (Beaujen, 2014; Kline, 2015). Considering the theoretical and empirical reviews carried out prior to the collection of data, confirmatory factor analysis was adopted. Confirmatory factor analysis (CFA) is a factor model constrained to a postulated theoretical model built on empirical studies that guide the choice of indicators that are meant to measure the study variables (Creswell, 2014; Beaujen, 2014). To confirm whether these measurements are appropriate for this study, a confirmatory factor analysis (CFA) was conducted. The value of correlation between the factors indicates discriminant validity. Through model trimming, the model is revised by deleting parameters with low factor loading (<0.5) and low reliability (R2 <0.5). The loadings in the path model provide a measure for the convergent validity; the value of R^2 provides a measure with which to assess the reliability of the variables; the value of correlation between the factors indicates the discriminant validity. Human Resource Information Systems was measured using four variables i.e., ICT capability (ICTC), HRIS System Quality (HSQ), HRIS Information Quality (HIQ), and HRIS Information Security (HIS). The dependent variable was Organizational Performance (OP). The moderating variable was Top Management Commitment (TMC). Path analysis was done for all the variables.

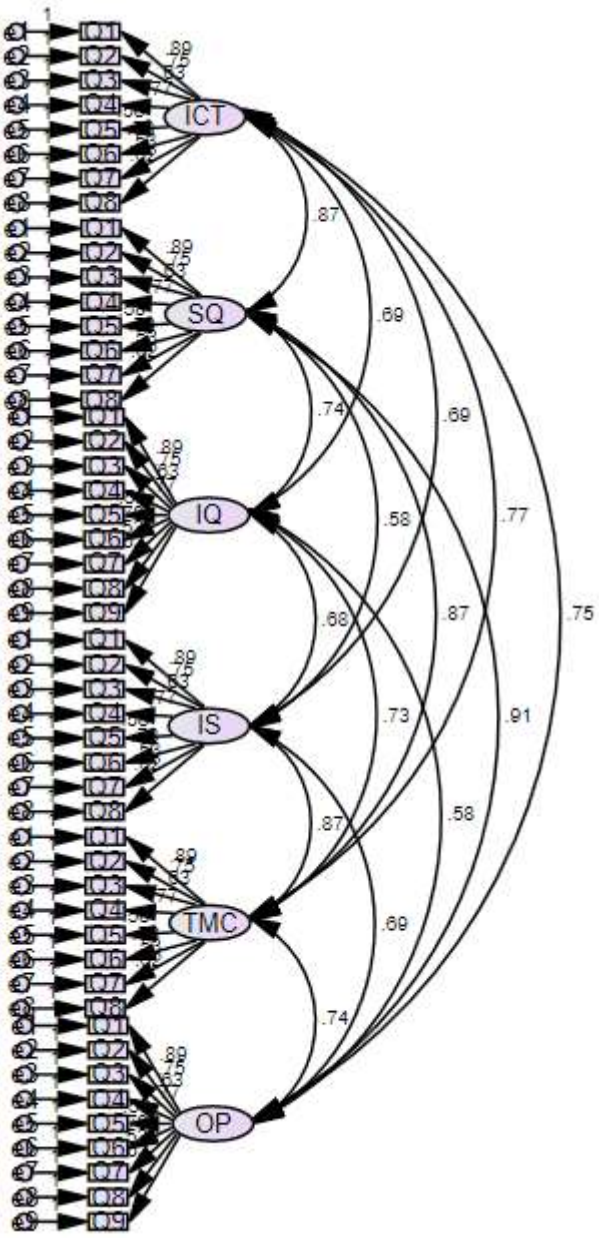

Figure 4.1: Path Analysis

for All Variables ICT capability (ICT), HRIS System Quality (HSQ), HRIS Information Quality (HIQ), HRIS Information Security (HIS), Top Management Commitment (TMC), and Organizational Performance (OP).

From the path model and/or diagram, all the paths had a factor loading of above 0.5. Therefore, all the 49 measures of Human Resource Information Systems and Organizational Performance met the construct validity threshold and were therefore included in the final study. Pedace, (2013) agrees that, unlike CFA, Exploratory factor analysis (EFA) is an unrestricted model for exploratory dimension reduction with a simple structure where all the concealed factors are set to explain the various forms of as many items as possible from the set of observed variables/ indicators (Kaplan, 2009). An EFA carried out to assess the multi-dimensionality of the set of indicators used in the study to various dimensions yielded results shown in Table 4.3. The results showed that all the indicators of the study were multi-dimensional and could be reduced into 11 latent factors (dimensions) that explained up to 82.885% of the variation in the indicators. From the initial factor solution, the first factor explained up to 25.724% of the variance in all the indicator measurements while the last factor with an eigenvalue greater than 1 explained only 2.797% of the variance.

An eigen-value can be described as some of the conceivable values of a measure/ quantity resulting from a distinctive or integral equation that has explanations that satisfy certain distinct and/or special conditions in data analysis/ or the total variance explained by each factor. Factors with eigen-values of above 1 are chosen for further study (rule of thumb). Factor loadings are simple relationships between study variables and factors (Li, Hu & Wang, 2014). Upon rotation of the factor loadings to redistribute the variance, the first factor explained 11.51% of the variance and the last 5.009% of the variance. Rotation is carried out in EFA to explore other possible sets of estimates as EFA is not restricted to a single unique set of parameter estimates.

Table 4.3: Exploratory Factor Analysis Variance explained

Comp-onent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumu-lative %	Total	% of Variance	Cumu-lative %	Total	% of Variance	Cumu-lative %
1	10.29	25.724	25.724	10.29	25.724	25.724	4.604	11.51	11.51
2	4.975	12.437	38.16	4.975	12.437	38.16	3.767	9.418	20.928
3	3.74	9.349	47.509	3.74	9.349	47.509	3.41	8.526	29.454
4	3.157	7.893	55.402	3.157	7.893	55.402	3.125	7.812	37.266
5	2.133	5.332	60.734	2.133	5.332	60.734	3.039	7.598	44.863
6	1.959	4.898	65.632	1.959	4.898	65.632	2.806	7.015	51.879
7	1.657	4.142	69.774	1.657	4.142	69.774	2.775	6.937	58.815
8	1.455	3.638	73.411	1.455	3.638	73.411	2.678	6.696	65.511
9	1.39	3.476	76.887	1.39	3.476	76.887	2.587	6.468	71.979
10	1.28	3.201	80.088	1.28	3.201	80.088	2.359	5.897	77.875
11	1.119	2.797	82.885	1.119	2.797	82.885	2.004	5.009	82.885
12	0.965	2.413	85.297						
13	0.816	2.041	87.338						
14	0.742	1.856	89.194						
15	0.626	1.565	90.759						
16	0.59	1.475	92.234						
17	0.486	1.215	93.45						
…	…	…	…						
47	-5.59E-16	-1.14E-15	100						
48	-6.78E-16	-1.38E-15	100						
49	-1.08E-15	-2.21E-15	100						

Considering the theoretical factor models of the study constructs, CFA was carried out further to EFA and used to assess uni-dimensionality of each construct and construct validity of the research instrument. From the CFA the factor loadings results presented in Appendix V show that most of the constructs had most of their respective indicators retained which loaded the constructs above 0.4. The threshold to retain items with factor loadings greater than 0.4 and expunge those that load the latent variables less than 0.4 was recommended by Kaiser (1974), as cited by UlHadi, Abdullah & Sentosa (2016).In this study, 5 items that were found not to load their respective latent constructs adequately above 0.4 were dropped; 1 item from ICT Capability (component1), 1 item from HRIS System Quality (component 2) and 2 items from Top Management Commitment (component 4) and 1 item from Organizational Performance (component 5).

Table 4.3 shows the construct validity results extracted from the CFA results carried out. A summary of the KMO and the Bartlett's Test of Sphericity for each CFA carried out is also included in the table. A high KMO value tending towards 1 is preferred and imply that the sum of partial correlations is not very large relative to the sum of correlations and thus factor analysis yields reliable distinct factors. KMO is therefore described as an index used to decide the pertinence of factor analysis. Field (2017) avers that, a high KMO Value/Degree of Common Variance value of 0.8-1 is suitable or signposts the suitability of factor analysis. The KMO values are all greater than 0.6 implying adequate, distinct and reliable factors were generated. The Bartlett's statistic on the other hand tests to confirm that there are at least some correlations between the items. Factor analysis is based on the variance covariance matrix of the variables and requires some correlations between the items.The Bartlett's test therefore confirms this with significance by testing the null hypothesis that the correlation matrix is an identity matrix. The p-value of the Bartlett's Chi-square statistic is 0.000 implying that the correlation matrix is not an Identity matrix therefore there are some relationships between the items allowing possibility of reliable factor extraction.

Construct validity is achieved if the items purported to measure the same study construct (latent variable) are found to be at least moderately inter-correlated (convergent validity) and if a set of observed variables measuring different constructs show discriminant validity with low inter-correlations (Kline, 2013).Fornell & Larcker, (1981) criterion/ standard as cited by Alarcon and Sanchez, (2015) affirm that convergent validity is said to be exhibited if the average variances extracted (AVEs) for the constructs are above 0.5 and discriminant validity (the extent to which measures of dissimilar traits or characters are unrelated) is said to exist if the squared multiple correlations are less than the construct AVEs. From the results in table 4.4, all the AVEs for the constructs are above 0.5 implying convergent validity and the square multiple correlations are all less than the AVEs for each construct implying discriminant validity of the study instrument. The results thus show that the questionnaire met construct validity and fit to collect data to be used in the main study.

Table 4.4: Construct Validity Assessment

	AVEs	Squared multiple correlations	KMO	Bartlett's Test of Sphericity	
				Approx. Chi-Square	Sig.
X_1 ICT Capability	0.594	0.258	0.783	72.048	0.000
X_2 HRIS System Quality	0.621	0.430	0.684	99.867	0.000
X_3HRIS Information Quality	0.676	0.513	0.702	120.665	0.000
X_4 HRIS Information Security	0.789	0.444	0.665	218.424	0.000
Z Top Management Commitment	0.699	0.258	0.609	221.181	0.000
Y Organization Performance	0.704	0.513	0.675	218.424	0.000

4.3.2 Reliability of the Data Collection Instrument

Reliability analysis was done to evaluate survey constructs. Reliability analysis was evaluated using Cronbach's alpha. Sekaran & Bougie (2013) argued that coefficient greater than or equal to 0.7 is acceptable for basic research. Baporikar (2014) explains that reliability can be viewed from two sides: reliability (the extent of accuracy) and unreliability (the extent of inaccuracy). The most common reliability coefficient is Cronbach's alpha which estimates internal consistency by determining how the total number of items on a test relates to all other items and the total test-internal coherence of data. The reliability is expressed as a coefficient between 0 and 1.00. The higher the coefficient, the more reliable is the test. Reliability results were presented in Table 4.5.

Table 4.5: Reliability Results

Variable	Cronbach's Alpha	Number of items	Comment
ICT Capability	0.801	8	Reliable
Top Management Commitment	0.899	8	Reliable
HRIS System Quality	0.861	8	Reliable
HRIS Information Quality	0.947	8	Reliable
HRIS Information Security	0.976	8	Reliable
Organizational Performance	0.915	9	Reliable

The findings on Table 4.5 indicated that ICT Capability, top management commitment, HRIS system quality, HRIS information quality, HRIS information security and Organizational performance had reliability of 0.801, 0.899, 0.861, 0.947, 0.976 and 0.915 respectively. All variables depicted that the value of Cronbach's Alpha was above value of 0.7 thus the study variables were reliable. This represented high level of reliability.

4.4 Demographic Information

Respondents were asked questions regarding their demographic information such as the gender of the respondents, age, level of education and years served in the corporation. It was considered necessary for the study since it would assist in carrying out an assessment on the background information of the respondents under study. This was aimed at getting a better understanding of the respondents and the corporations being studied. The assessment was meant to give a general indication of the knowledge and capability of the studied respondents' in giving adequate, satisfactory, dependable, consistent and unbiased/objective information.

4.4.1 Position Held in the Organization

The respondents were asked to indicate their position in the organization. The results were presented in Figure 4.2.

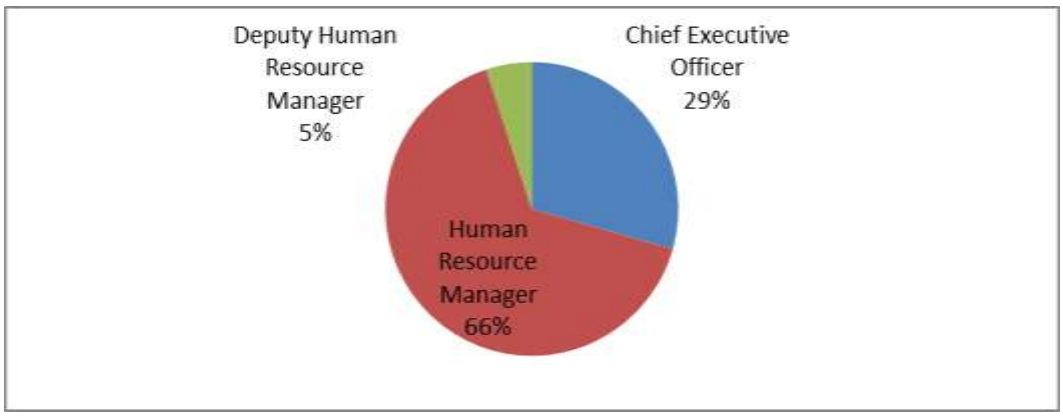

Figure 4.2: Position held in the Organization

The result revealed that majority of the respondent indicated that (66%) they were Human resource manager, (29%) of the respondent indicated that they were Chief executive officers, while only (5%) of the respondent indicated to be Deputy Human resource managers. This implied that most respondents who answered the questionnaires were human resource managers, who were the key respondents in the study so as to bring out its relevance.

4.4.2 Gender of the Respondent

The respondents were asked to indicate their gender. The results were presented in Figure 4.3.

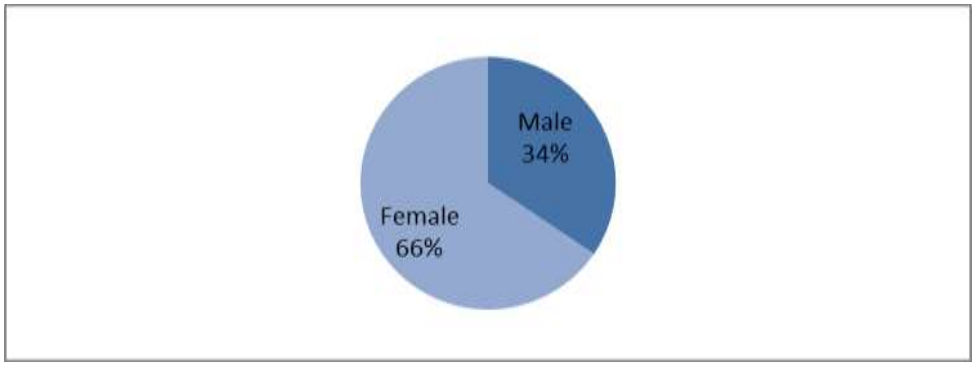

Figure 4.3: Gender of the respondents

The result revealed that majority (66%) of the respondent indicated that they were female while (34%) indicated to be male. This implies that most CEO's and human resource managers of commercial state corporations in Kenya were women and thus it agrees with the gender rule which state that 2/3 of employees should be from either gender as per the Kenyan constitution which was promulgated in 2010.

4.4.3 Age of the Respondent

The respondents were asked to indicate their age. The results were presented in figure 4.4.

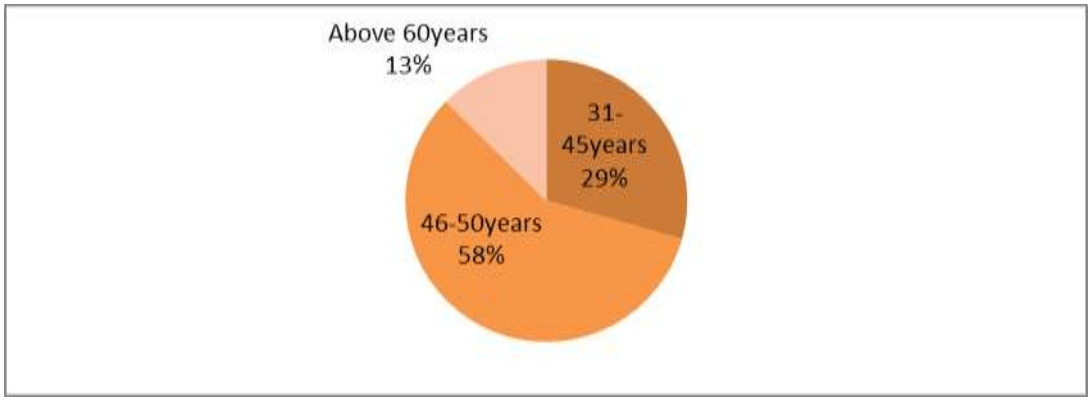

Figure 4.4: Age of the Respondent

The result revealed that majority (58%) of the respondent indicated that they were between the age of 46-50 years, (29%) of the respondent indicated that they were the age of 31-45 years, while (13%) indicated to be above 60 years. This implied that most managers were middle aged people and thus had worked for several years which might attribute to better skills and better performance in the long run. They should also advocate for the recruitment and selection of millennial in the near future since these individuals have vibrant ideas, talents, skills and knowledge which if nurtured well through the knowledge and talent management programmes would lead to creativity and innovativeness in the long run.

4.4.4 Level of Education

The respondents were asked to indicate their level of education. The results were presented in Figure 4.5.

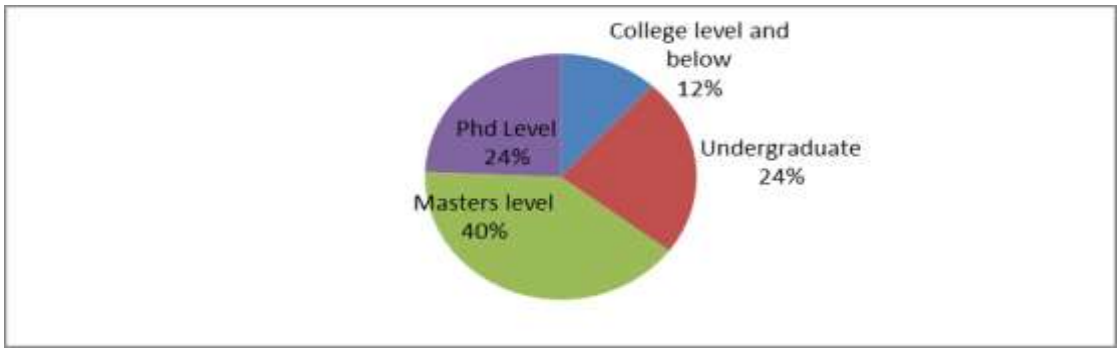

Figure 4.5: Level of Education

The result revealed that majority (40%) of the respondent indicated that they were in their master's level, (24%) indicated to be in their PhD and undergraduate level while only (12%) indicated that they were in their college and below level. This implies that most CEO's and human resource managers of commercial state corporations in Kenya are educated and thus have the capacity to improve the organizational performance of their cooperation. This is because highly educated people understand their work and are able to deliver on their mandate or to the expectations of their employers.

4.4.5 Years Served in the Commercial State Corporation

The respondents were asked to indicate the years they have served in the corporation. The results were presented in Figure 4.5.

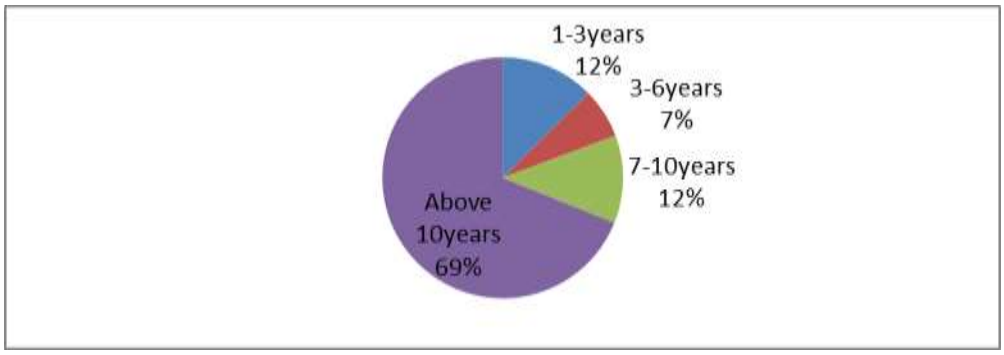

Figure 4.6: Years Served in the Commercial State Corporation

The result revealed that majority (69 %) of the respondent indicated that they have served for more than 10 years, (12%) indicated they had worked for duration of 7-10 years another (12%) indicated to have worked for duration of 1-3 years while only (7%) indicated to have worked for a period of 3-6 years. This implies that most respondents that were interviewed had served in the corporations for a good number of years and therefore had relevant competencies, skills and knowledge required to drive the corporations into continuous profitability.

4.5 Descriptive Analysis

Descriptive analysis was conducted for both the dependent and the independent variables of the study. Descriptive analysis results were reported in frequency tables considering the ordinal Likert scale measurements used for the indicators of each variable. The frequency tables showed the distribution of the responses in terms of percentages while the mean score of the responses that were coded 1 to 5 was also reported. Further to the descriptive analysis of the data collected from the questionnaires, the qualitative data collected from the interviews carried out were also analyzed using thematic content analysis and reported for each study variable.

4.5.1 ICT Capability

The first objective was to establish to the influence of ICT capability on organizational performance of commercial state corporations in Kenya. The indicators of the independent variables ICT capacity were measured on a Likert scale to determine the levels of agreement of the respondents on the indicator statements considering the categories strongly disagree (1), disagree (2), neutral (3), agree (4) and strongly agree (5). The results of the descriptive statistics on ICT capability are shown in the frequency Table 4.5 showing the distribution on the percentage of respondents per category with the mean and standard deviations as the measures of central tendency and measures of dispersion on each indicator.

Table 4.6: ICT capability and Organizational Performance

Statement	SD	D	N	A	SA	Mean	SD
The organization has basic IT infrastructure in place	7.60%	6.70%	0.80%	10.10%	74.80%	4.40	1.26
There is a budget for IT needs in the organization	5.90%	2.50%	31.90%	11.80%	47.90%	3.90	1.20
The organization have adequate skills and competences in IT among its human resources	9.20%	13.40%	25.20%	33.60%	18.50%	3.40	1.20
Software and hardware are standardized to suit organization needs	7.60%	7.60%	10.10%	47.90%	26.90%	3.80	1.15
There adequate training in system use to employees and managers	4.20%	8.40%	17.60%	47.10%	22.70%	3.80	1.03
IT strategy of this organization is linked to its five-year strategic plan	6.70%	4.20%	8.40%	36.10%	44.50%	4.10	1.14
The IT system is synchronized to manage administrative costs	3.40%	7.60%	7.60%	64.70%	16.80%	3.80	0.91
There is emphasis on human centered information management to improve the ways in which people use and share information	6.70%	0.00%	22.70%	65.50%	5.00%	3.60	0.86
Average						**3.85**	**1.10**

The result revealed that majority (74.8%) of the respondents strongly agreed that the organization has basic IT infrastructure in place. There were 7.6% respondents who strongly disagreed, while 6.7% of the respondents disagreed and 0.8% of the respondents were neutral. In addition, 10.1% of the respondents agreed that the organization has basic IT infrastructure in place. The indicator had a mean score of 4.4 which is an implication that the members on average agreed that the organization has basic IT infrastructure in place with a standard deviation of 1.26 which is an implication of variations from this mean. The study also sought what the respondents perceived of whether there is a budget for it needs in the organization. There were 5.9% respondents who strongly disagreed, while 2.5% of the respondents disagreed and 31.9% of the respondents were neutral. Some 11.8% of the respondents agreed and another 47.9% strongly agreed that there is a budget for IT needs in the organization. The indicator had a mean score of 3.9 which is an implication that the members on average agreed that there is a budget for IT needs in the organization with a standard deviation of 1.2 which is an implication of variations from this mean.

These findings agreed with that of Mukulu, Karanja & Warui (2015) who argued that insufficient IT facilities as well as inadequate networked facilities affected acceptance and application of HRIS. As per the indicator on whether the organization have adequate skills and competences in IT among its human resources, the results revealed that there were 9.2% respondents who strongly disagreed, while 13.4% of the respondents disagreed and 25.2% of the respondents were neutral. Some 33.6% of the respondents agreed and another 18.5% strongly agreed that the organization have adequate skills and competences in IT among its human resources. On average as implied by the mean of 3.4, the respondents were neutral to the indicator that the organizations have adequate skills and competences in IT among its human resources with a standard deviation of 1.2. These findings agreed with that of Mukulu, Karanja & Warui (2015) who argued that insufficient IT facilities as well as inadequate networked facilities affected adoption of HRIS. However, the presence of a system that integrated all employees' information with payroll and financial software was a positive move in usage of HRIS.The respondents were also asked about their perception on whether software and hardware are standardized to suit organization needs. There were 7.6% respondents who strongly disagreed, while 7.6% of the respondents disagreed and 10.1% of the respondents were neutral.

Some 47.9% of the respondents agreed and another 26.9% strongly agreed that software and hardware are standardized to suit organization needs. On average as implied by the mean of 3.8, the respondents agreed that software and hardware are standardized to suit organization needs with a standard deviation of 1.15. These results concur with those of Bondarouk & Ruel (2009) who aver that IT strategy, infrastructure, and cost, examines the organization’s IT plans and it is important to assess its assignment with the organization’s business plans for at least five years. Regarding whether there adequate training in system use to employees and managers. There were 4.2% respondents who strongly disagreed, while 8.4% of the respondents disagreed and 17.6% of the respondents were neutral. Some 47.1% of the respondents agreed and another 22.7% strongly agreed that there adequate training in system use to employees and managers.

The mean response was found to be 3.8 which shows that on average, the members agreed that there adequate training in system use to employees and managers. The standard deviation of 1.03 shows that there are variations from the average response. Regarding whether IT strategy of this organization is linked to its five-year strategic plan. There were 6.7% respondents who strongly disagreed, while 4.2% of the respondents disagreed and 8.4% of the respondents were neutral. Some 36.1% of the respondents agreed and another 44.5% strongly agreed that IT strategy of this organization is linked to its five-year strategic plan. The indicator had a mean score of 4.1 which is an implication that the members on average agreed that IT strategy of this organization is linked to its five-year strategic plan with a standard deviation of 1.14 which is an implication of variations from this mean. The study also sought what the respondents perceived of whether their IT systems are synchronized to manage administrative costs. There were 3.4% respondents who strongly disagreed, while 7.6% of the respondents disagreed and 7.6% of the respondents were neutral. Some 64.7% of the respondents agreed and another 16.8% strongly agreed that the IT systems are synchronized to manage administrative costs. The mean response was found to be 3.8 which show that on average, the members agreed that the IT system is synchronized to manage administrative costs. The standard deviation of 0.91 shows that there are variations from the average response.

Another indicator of the construct sought whether there is emphasis on human centered information management to improve the ways in which people use and share information, the distribution was that there were 6.7% respondents who strongly disagreed, while 0% of the respondents disagreed and 22.7% of the respondents were neutral. Some 65.5% of the respondents agreed and another 5% strongly agreed that there is emphasis on human centered information management to improve the ways in which people use and share information. The indicator had a mean score of 3.6 which is an implication that the members on average agreed that there is emphasis on human centered information management to improve the ways in which people use and share information with a standard deviation of 0.86 which is an implication of variations from this mean. From the pilot study validity results based on factor analysis, one indicator of this construct was dropped and thus only 7 indicators were retained for analysis in the main study.

Factor analysis was further used for dimension reduction on the main study data collected on the 7 indicators to generate the latent variable as a composite measure of ICT capability. The results of the KMO and Bartlett's Test for the factor analysis results of the 7 retained indicators of ICT are summarized in Table 4.7.

Table 4.7: Kaiser-Meyer-Olkin Measure of ICT capability

Test		Statistics
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.789
Bartlett's Test of Sphericity	Approx. Chi-Square	285.319
	df	21
	Sig.	.000

The value of the KMO Measure of Sampling Adequacy for ICT capability was 0.789 as indicated in Table 4.7, which was considered adequate being greater than 0.5. Field (2017) agrees that a KMO Value/Degree of Common Variance value of 0.5 is suitable. The significance Bartlett's statistics was also confirmed that the factor analysis results yielded significant distinct and reliable factors. The chi square coefficient of 285.319 and a p-value of 0.000 which is less than 0.05 imply that the correlation matrix is not an Identity matrix therefore there are some relationships between the items allowing possibility of reliable factor extraction. Table 4.7 shows the factor loadings of indicators of ICT capability on the latent composite variable.

Table 4.8: ICT Capability Factor Loadings

Indicator	Component Loading
The organization has basic IT infrastructure in place	.472
The organization have adequate skills and competences in IT among its human resources	.469
Software and hardware are standardized to suit organization needs	.405
There adequate training in system use to employees and managers	.754
IT strategy of this organization is linked to its five-year strategic plan	.605
The IT system is synchronized to manage administrative costs	.793
There is emphasis on human cantered information management to improve the ways in which people use and share information	.660

From the results in Table 4.8 all the 7 retained indicators loaded the latent variable ICT capability above 0.4 which is an indication of adequate loading of the items used to measure the construct and uni-dimensionality. The 7 indicators of ICT capability were thus used to generate a composite latent variable using the factor scores generated from factor analysis. The observed indicators of ICT capability were measured on a categorical Likert scale however; the composite measure generated from the indicators resulted into a variable measured on a continuous (interval) scale which was further used for inferential analysis. From the interviews carried out, a content analysis was carried out on the questions from the interview guide that were based on ICT capability of the organisations. This sought to further assess the status of the phenomenon of ICT capability of the firms based on qualitative information gathered from interviews. Content analysis was based on thematic analysis approach where themes on ICT capability were sought from the qualitative responses given by the interviewees, coded and the frequency of occurrence of the coded themes assessed and reported in frequency tables. Table 4.9 shows the summary of the coded efficiency themes resulting from content analysis of ICT capability.

Table 4.9: Content analysis on efficiency themes of ICT Capability

Themes	Frequency	Percentage
Efficient	82	74.8%
Not efficient	18	16.0%
Weak	10	9.2%
Total	**110**	**100%**

The respondents were asked to describe the ICT capacity in their organization. Majority of the respondents (74.8%) indicated that their organization has efficient ICT department, 16% indicated that ICT in their organization is not efficient while only 9.2% who indicated that ICT in their organization was weak. This implies that most commercial state corporations in Kenya have efficient ICT departments. These findings agreed with that of Warui (2016) who argued that insufficient IT facilities as well as inadequate networked facilities affected adoption of HRIS. Further to efficiency related themes of ICT capability of the organizations, Table 4.10 is a summary of the coded performance themes resulting from content analysis of ICT capability.

Table 4.10: Content analysis on Organizational Performance themes of ICT Capability

Themes	Frequency	Percentage
Enhances performance	65	60.5%
Reduced work force	19	17.6%
Improved HSRS System	26	21.9%
Total	**110**	**100%**

The respondents were also asked to describe how ICT capability influenced implementation of HRIS in the organization. Majority of the respondents (60.5%) indicated that availability of ICT in their organization has led to better performance, (17.6%) indicated it reduced work force while (21.9%) of the respondent indicated HRIS system are improved. This implies that adopting ICT capability in the organization influences implementation of HRIS. These findings agreed with that of Warui (2016) who argued that insufficient IT facilities as well as inadequate networked facilities affected adoption of HRIS.

4.5.2 HRIS System Quality

The second objective was to establish to the influence of system quality on organizational performance in commercial state corporations in Kenya. A Likert scale with alternatives of strongly disagree, disagree, neutral, agree and strongly agree were presented for answering by respondents. The results were presented in form of percentages, mean and standard deviations. Table 4.11 shows the results of the descriptive statistics on system quality displaying the frequency/ percentage of respondents per category for each indicator with the mean and standard deviations as the measures of central tendency and measure of dispersion

Table 4.11: HRIS System Quality and Organizational Performance

Statement	SD	D	N	A	SA	Mean	SD
The HRS in this organization is easy to use	5.90%	3.40%	22.70%	36.10%	31.90%	3.85	1.09
The human resource information system allows for flexibility in performing different job tasks and functions	5.90%	9.20%	24.40%	45.40%	15.10%	3.55	1.05
The human resource information system in this organization is reliable	5.00%	14.30%	6.70%	43.70%	30.30%	3.80	1.17
There is adequate safety of information in the human resource information system of this organization	5.90%	10.90%	9.20%	52.10%	21.80%	3.73	1.1
Human resource information system is compatible with other system applications in this organization	7.60%	18.50%	12.60%	46.20%	15.10%	3.43	1.18
The human resource information system in this organization is stable	8.40%	21.80%	10.10%	21.00%	38.70%	3.60	1.4
Human resource information system has adequately met its intended purpose	8.40%	10.10%	24.40%	26.10%	31.10%	3.61	1.26
The human resource information system in this organization has improved customer satisfaction	4.20%	5.00%	22.70%	53.80%	14.30%	3.69	0.93
Average						**3.66**	**1.15**

The result revealed that Majority (31.90%) of the respondents strongly agreed that the hours in the organizations are easy to use. There were 5.90% respondents who strongly disagreed, while 3.4% of the respondents disagreed and 22.7% of the respondents were neutral.

Some 36.1% of the respondents agreed and another 31.9% strongly agreed that the hours in the organizations are easy to use. The mean response was found to be 3.85 which show that on average, the members agreed that the hours in the organizations are easy to use. A standard deviation of 1.09 shows that there are variations from the average response. Regarding the indicator on whether the human resource information systems allow for flexibility in performing different job tasks and functions, there were 5.9% respondents who strongly disagreed, while 9.2% of the respondents disagreed and 24.4% of the respondents were neutral.Some 45.4% of the respondents agreed and another 15.1% strongly agreed that the human resource

information systems allow for flexibility in performing different job tasks and functions. On average as implied by the mean of 3.55, the respondents agreed that the human resource information systems allow for flexibility in performing different job tasks and functions with a standard deviation of 1.05. These findings agreed with that of DulcicI, Pavlic & Silic, (2012) who supported that System quality is positively correlated with performance.

The respondents were also asked about their perception on whether the human resource information systems in the organizations are reliable. There were 5% respondents who strongly disagreed, while 14.3% of the respondents disagreed and 6.7% of the respondents were neutral. Some 43.7% of the respondents agreed and another 30.3% strongly agreed that the human resource information systems in the organizations are reliable.The indicator had a mean score of 3.8 which is an implication that the members on average agreed that the human resource information systems in the organizations are reliable with a standard deviation of 1.17 which is an implication of variations from this mean. The results also revealed that majority that is 52.1% of the respondents strongly agreed that there is adequate safety of information in the human resource information system of the organizations. There were 5.9% respondents who strongly disagreed, while 10.9% of the respondents disagreed and 9.2% of the respondents were neutral. Some 52.1% of the respondents agreed and another 21.8% strongly agreed that there is adequate safety of information in the human resource information system of the organizations.

On average as implied by the mean of 3.73, the respondents agreed that there is adequate safety of information in the human resource information system of the organizations with a standard deviation of 1.1. The other indicator of the variable sought to find out the perception of the respondents regarding whether human resource information systems are compatible with other system applications in the organizations. Majority (46.2%) of the respondents were neutral. There were 7.6% respondents who strongly disagreed, while 18.5% of the respondents disagreed and 12.6% of the respondents were neutral. Some 46.2% of the respondents agreed and another 15.1% strongly agreed that human resource information systems are compatible with other system applications in the organizations.

On average as implied by the mean of 3.43, the respondents were neutral to the indicator that human resource information systems are compatible with other system applications in the organizations with a standard deviation of 1.18.Another indicator of the construct sought to find out the perception of the respondents regarding whether the human resource information system in the organizations are stable. Majority (38.7%) of the respondents strongly agreed. There were 8.4% respondents who strongly disagreed, while 21.8% of the respondents disagreed and 10.1% of the respondents were neutral. Some 21% of the respondents agreed and another 38.7% strongly agreed that the human resource information systems in the organizations are stable. The mean response was found to be 3.6 which show that on average, the members agreed that the human resource information systems in the organizations are stable. The standard deviation of 1.4 shows that there are variations from the average response. The study also sought what the respondents perceived of whether human resource information systems have adequately met their intended purposes. There were 8.4% respondents who strongly disagreed, while 10.1% of the respondents disagreed and 24.4% of the respondents were neutral. Some 26.1% of the respondents agreed and another 31.1% strongly agreed that human resource information systems have adequately met their intended purposes as prescribed by the users of the same.

The indicator had a mean score of 3.61 which is an implication that the members on average agreed that human resource information systems have adequately met their intended purposes with a standard deviation of 1.26 which is an implication of variations from this mean. These findings agreed with that of DulcicI, Pavlic & Silic, (2012) who supported that System quality is positively correlated with performance. Finally, the result revealed as per the indicator that the Human Resource Information Systems in the organizations have improved customer satisfaction, the distribution was that there were 4.2% respondents who strongly disagreed, while 5% of the respondents disagreed and 22.7% of the respondents were neutral. Some 53.8% of the respondents agreed and another 14.3% strongly agreed that the human resource information systems in the organizations have improved customer satisfaction.

The mean response was found to be 3.69 which show that on average, the members agreed that the human resource information systems in the organizations have improved customer satisfaction. The standard deviation of 0.93 shows that there are variations from the average response. The findings concur with those of Bocij, Greasley & Hickie (2015) who argued that quality of programs affect customer satisfaction through reducing errors by better programming and testing practices. For the construct HRIS System quality, factor analysis from the pilot study validity resulted into obliterating of one indicator that did not meet the threshold of 0.4 loading retaining only 7 indicators for the main study. Factor analysis was further used for dimension reduction on the main study data collected on the 7 indicators to generate the latent variable as a composite measure of HRIS System Quality.The results of the KMO and Bartlett's Test for the factor analysis results of the 7 retained indicators of HRIS system quality are summarized in Table 4.12

Table 4.12: Kaiser-Meyer-Olkin Measure of HRIS System Quality

Test		Statistics
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.560
Bartlett's Test of Sphericity	Approx. Chi-Square	253.726
	df	21
	Sig.	.000

The value of the KMO Measure of Sampling Adequacy for HRIS System Quality was 0.560 as indicated in Table 4.12, which was considered adequate being greater than 0.5. Field (2017) agrees that, a KMO Value/Degree of Common Variance value of 0.5 is suitable. The significance Bartlett's statistics was also confirmed that the factor analysis results yielded significant distinct and reliable factors. The chi square coefficient of 253.726 and a p-value of 0.000 which is less than 0.05 imply that the correlation matrix is not an identity matrix therefore there are some relationships between the items allowing possibility of reliable factor extraction. Table 4.13 shows the factor loadings of indicators of System Quality on the latent and composite variable.

Table 4.13: HRIS System Quality Factor Loadings

Statements	Factor loading
The human resource information system in this organization is easy to use	.403
The human resource information system allows for flexibility in performing different job tasks and functions	.597
The human resource information system in this organization is reliable	.650
There is adequate safety of information in the human resource information system of this organization	.828
The human resource information system in this organization is stable	.762
Human resource information system has adequately met its intended purpose	.540
The human resource information system in this organization has improved customer satisfaction	.568

From the results in Table 4.13 all the indicators loaded the latent variable HRIS System Quality above 0.4 which is an indication of adequate loading of the items used to measure the construct and uni-dimensionality. The indicators of HRIS System Quality were thus used to generate a composite latent variable using the factor scores generated from factor analysis. The continuous (interval) composite measure generated from the indicators was further used for inferential analysis involving HRIS System Quality. From the interviews carried out, a content analysis was carried out on the questions from the interview guide that were based on HRIS System Quality of the organisations. This sought to further assess the status of the phenomenon of System Quality of the firms based on qualitative information gathered from interviews. Content analysis was based on thematic analysis approach where themes on HRIS System Quality were sought from the qualitative responses given by the interviewees, coded and the frequency of occurrence of the coded themes assessed and reported in frequency tables. Table 4.14 shows the summary of the coded efficiency themes resulting from content analysis of HRIS System Quality.

Table 4.14: Content analysis

Themes	Frequency	Percentage
High quality	74	66.7%
Low quality	21	19.4%
Don’t know	15	13.9%
Total	**110**	**100%**

Majority of the respondents (66.7%) indicated that HRIS in the organization was of high quality, 19.4% indicated that HRIS in the organization was of high quality while 13.9% did not know. These findings agreed with that of DulcicI, Pavlic & Silic (2012) who supported that HRIS System quality is positively correlated with organizational performance.

4.5.3 HRIS Information Quality

The third objective was to establish to the influence of HRIS information quality on organizational performance in commercial state corporations in Kenya. A likert scale with options of strongly disagree, disagree, neutral, agree and strongly agree were presented for answering by respondents. The results the results of the descriptive statistics on HRIS information quality were presented in Table 4.15 displaying the frequency/ percentage of respondents per category for each indicator with the mean and standard deviations as the measures of central tendency and measure of dispersion.

Table 4.15: HRIS Information Quality and Organizational Performance

Statement	SD	D	N	A	SA	Mean	Std. Dev
Information provided by the human resource information system in this organization is accurate	6.70%	11.80%	5.90%	31.90%	43.70%	3.94	1.26
Data in the human resource information system is relevant	4.20%	5.90%	19.30%	47.10%	23.50%	3.80	1.00
Human resource information system has sufficient data	10.10%	0.00%	29.40%	40.30%	20.20%	3.61	1.12
Human resource information system provides timely data	6.70%	5.90%	32.80%	11.80%	42.90%	3.78	1.25
Human resource information system is updated regularly	3.40%	14.30%	6.70%	42.00%	33.60%	3.88	1.13
Information provided by the human resources information system covers adequate time period	8.40%	3.40%	12.60%	53.80%	21.80%	3.77	1.09
Data provided by the human resource information system in this organization is detailed and clear	3.40%	16.80%	11.80%	18.50%	49.60%	3.94	1.26
The human resource information system in this organization present data in a compatible and orderly form	6.70%	9.20%	6.70%	27.70%	49.60%	4.04	1.24
Average						**3.85**	**1.17**

The result revealed that majority (43.7%) of the respondents strongly agreed that information provided by the human resource information systems in the organizations is accurate. There were 6.7% respondents who strongly disagreed, while 11.8% of the respondents disagreed and 5.9% of the respondents were neutral. Some 31.9% of the respondents agreed and another 43.7% strongly agreed that information provided by the human resource information systems in the organizations is accurate.The indicator had a mean score of 3.94 which is an implication that the members on average agreed that information provided by the human resource information systems in the organizations is accurate with a standard deviation of 1.26 which is an implication of variations from this mean. Regarding whether data in the human resource information systems are relevant, 4.2% respondents who strongly disagreed, while 5.9% of the respondents disagreed and 19.3% of the respondents were neutral. Some 47.1% of the respondents agreed and another 23.5% strongly agreed that data in the human resource information systems are relevant.

On average as implied by the mean of 3.8, the respondents agreed that data in the human resource information systems are relevant with a standard deviation of 1. The respondents were also asked about their perception on whether human resource information systems have sufficient data. There were 10.1% respondents who strongly disagreed, while 0% of the respondents disagreed and 29.4% of the respondents were neutral. Some 40.3% of the respondents agreed and another 20.2% strongly agreed that human resource information systems have sufficient data. The mean response was found to be 3.61 which show that on average, the members agreed that human resource information systems have sufficient data. The standard deviation of 1.12 shows that there are variations from the average response. The findings agree with that of Kavanagh *et al.,* (2012) who argued that data is imperative to enhanced organizational performance and data management is considered an integral part of organizational strategy.

The results also revealed that majority (42.9%) of the respondents strongly agreed that human resource information systems provide timely data. There were 6.7% respondents who strongly disagreed, while 5.9% of the respondents disagreed and 32.8% of the respondents were neutral. Some 11.8% of the respondents agreed and another 42.9% strongly agreed that human resource information systems provide timely data. The mean response was found to be 3.78 which show that on average, the members agreed that human resource information systems provide timely data. The standard deviation of 1.25 shows that there are variations from the average response. The other indicator of the variable sought to find out the perception of the respondents regarding whether human resource information systems are updated regularly. Majority (42%) of the respondents were neutral. There were 3.4% respondents who strongly disagreed, while 14.3% of the respondents disagreed and 6.7% of the respondents were neutral. Some 42% of the respondents agreed and another 33.6% strongly agreed that human resource information systems are updated regularly. The mean response was found to be 3.88 which show that on average, the members agreed that human resource information systems are updated regularly. The standard deviation of 1.13 shows that there are variations from the average response.

Weeks (2013) avers that information quality; high-quality decisions require high-quality information. Another indicator of the construct sought to find out the perception of the respondents regarding whether information provided by the human resources information systems cover adequate time period. Majority (53.8%) of the respondents strongly agreed. There were 8.4% respondents who strongly disagreed, while 3.4% of the respondents disagreed and 12.6% of the respondents were neutral. Some 53.8% of the respondents agreed and another 21.8% strongly agreed that information provided by the human resources information systems cover adequate time period. The mean response was found to be 3.77 which show that on average, the members agreed that information provided by the human resources information systems cover adequate time period. The standard deviation of 1.09 shows that there are variations from the average response.

The study also sought what the respondents perceived of whether data provided by the human resource information systems in the organizations is detailed and clear. There were 3.4% respondents who strongly disagreed, while 16.8% of the respondents disagreed and 11.8% of the respondents were neutral. Some 18.5% of the respondents agreed and another 49.6% strongly agreed that data provided by the human resource information systems in the organizations is detailed and clear.The mean response was found to be 3.94 which show that on average, the members agreed that data provided by the human resource information systems in the organizations is detailed and clear. The standard deviation of 1.26 shows that there are variations from the average response. Finally on the indicator that the human resource information systems in the organizations present data in a compatible and orderly form, the distribution was that there were 6.7% respondents who strongly disagreed, while 9.2% of the respondents disagreed and 6.7% of the respondents were neutral. Some 27.7% of the respondents agreed and another 49.6% strongly agreed that the human resource information systems in the organizations present data in a compatible and orderly form. The mean response was found to be 4.04 which show that on average, the members agreed that the human resource information systems in the organizations present data in a compatible and orderly form.

The standard deviation of 1.24 shows that there are variations from the average response. The standard deviation was 1.26 implying that the answers were varied from the mean.The result concurs with Weeks (2013) who avers that on HRIS information quality, high-quality decisions require high-quality information. These findings agree with that of Laudon & Laudon (2014) who argued that data is very essential in modern organizations and the effective and efficient management of data is considered an integral part of organizational strategy. For the construct, HRIS Information Quality, factor analysis from the pilot study validity, did not result into deletion of any indicator thus all the 8 items were retained. Factor analysis was further used for dimension reduction on the main study data collected on the indicators to generate the latent variable as a composite measure of Information Quality. The results of the KMO and Bartlett's Test for the factor analysis results of the 7 retained indicators of information quality are summarized in Table 4.16.

Table 4.16: Kaiser-Meyer-Olkin Measure of HRIS Information Quality

Test		Statistics
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.720
Bartlett's Test of Sphericity	Approx. Chi-Square	403.583
	df	28
	Sig.	.000

The value of the KMO Measure of Sampling adequacy for HRIS Information Quality was 0.720 as indicated in Table 4.16, which was considered adequate being greater than 0.5. Field (2017) affirms that, a KMO Value/Degree of Common Variance value of 0.5 is suitable. The significance Bartlett's statistics was also confirmed that the factor analysis results yielded significant distinct and reliable factors. The chi square coefficient of 403.583 and a p-value of 0.000 which is less than 0.05 imply that the correlation matrix is not an identity matrix therefore there are some relationships between the items allowing possibility of reliable factor extraction. Table 4.17 shows the factor loadings of indicators of HRIS Information Quality on the latent and composite variable.

Table 4.17: HRIS Information Quality Factor Loadings

Statements	Factor loadings
Information provided by the human resource information system in this organization is accurate	.705
Data in the human resource information system is relevant	.642
Human resource information system has sufficient data	.434
Human resource information system provides timely data	.655
Human resource information system is updated regularly	.852
Information provided by the human resources information system covers adequate time period	.623
Data provided by the human resource information system in this organization is detailed and clear	.774
The human resource information system in this organization present data in a compatible and orderly form	.719

From the results in Table 4.17 all the indicators loaded the latent variable Information Quality above 0.4 which is an indication of adequate loading of the items used to measure the construct and uni-dimensionality. The 8 indicators of Information Quality were thus used to generate a composite latent variable using the factor scores generated from factor analysis. The continuous (interval) composite measure generated from the indicators was further used for inferential analysis involving Information Quality. From the interviews carried out, a content analysis was carried out on the questions from the interview guide that were based on HRIS Information Quality of the organisations. This sought to further assess the status of the phenomenon of HRIS Information Quality of the firms based on qualitative information gathered from interviews. Content analysis was based on thematic analysis approach where themes on HRIS Information Quality were sought from the qualitative responses given by the interviewees, coded and the frequency of occurrence of the coded themes assessed and reported in frequency tables. Respondents were asked to give their opinion on their thoughts about information quality having influence on implementation of human resources information system. Results were presented in figure 4.7.

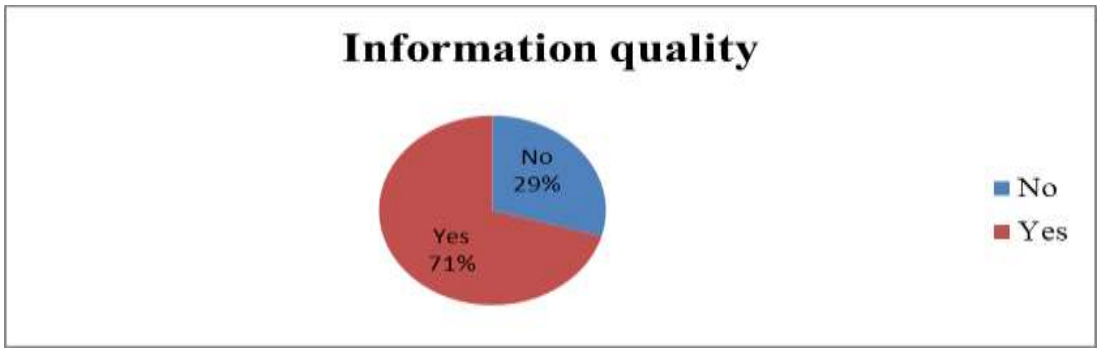

Figure 4.7: HRIS Information Quality

Results revealed that majority of the respondent (71%) agreed that information quality has an influence on implementation of human resources information system, while only (29%) of the remainder disagreed on information quality having an influence on implementation of human resources information system.

These findings agree with that of Jaafren (2017) who argued that data is vital in modern organizations and the effective and efficient management of data is considered an integral part of organizational strategy. The interviewees were asked if there is accuracy of data keyed in. Content analysis results from this theme are presented in Table 4.18.

Table 4.18: Content Analysis

Themes	Frequency	Percentage
Yes	92	84%
No	18	16%
Total	**110**	**100%**

Majority of the respondents (84%) yielded that the data inputted in was accurate. The (16%) of the remainder yielded that the key in data is inaccurate. This implies the organizations paid attention to data accuracy as indicated by the majority. These findings agree with that of Bocij, Greasley & Hickie (2015) who argued that data is essential in modern organizations and the effective and efficient management of data is considered an integral part of organizational strategy. The respondents were also asked to indicate if information quality has influenced acceptance and operationalization of HRIS. Majority of the respondents acquiesced that information quality has influenced the operationalization of HRIS. This was supported by the following responses.

Respondent 1: *Information is retrieved on regular basis*

Respondent 2: *It assists in dependable data hence sound decisions are made*

4.5.4 HRIS Information Security

The fourth objective was to establish to the influence of HRIS information security on organizational performance in commercial state corporations in Kenya. This section contains descriptive analysis for location. A likert scale with options of strongly disagree, disagree, neutral, agree and strongly agree were presented for answering by respondents. The results were presented in form of percentages, mean and standard deviations.

Table 4.19 shows the results of the descriptive statistics on information security displaying the frequency/ percentage of respondents per category for each indicator with the mean and standard deviations as the measures of central tendency and measure of dispersion

Table 4.19: HRIS Information Security and Organizational Performance

Statement	SD	D	N	A	SA	Mean	Std Dev
The HRIS is well designed, maintained and employees adequately trained to avoid security breaches due to human error	7.60%	12.60%	21.80%	24.40%	33.60%	3.64	1.27
There are measures to protect HRIS from security problems as a result of damage by employees	7.60%	10.10%	22.70%	29.40%	30.30%	3.65	1.23
There are safeguards for misuse of computer systems as a result of unauthorized access	7.60%	2.50%	30.30%	30.30%	29.40%	3.71	1.14
There are measures to guard against information theft from HRIS	8.40%	13.40%	16.80%	37.00%	24.40%	3.55	1.23
HRIS in this organization has safeguards against computer-based fraud	11.80%	11.80%	18.50%	24.40%	33.60%	3.56	1.37
Ways of dealing with security threats by viruses, worms and trojans are in place	10.10%	10.10%	10.10%	21.80%	47.90%	3.87	1.38
There are security features to ward off hackers	10.10%	24.40%	8.40%	19.30%	37.80%	3.50	1.45
There are safeguards against spoofing and sniffing	10.10%	10.10%	21.80%	14.30%	43.70%	3.71	1.38
Average						**3.65**	**1.31**

The result revealed that majority of the respondent agreed with the statement that the HRIS is well designed, maintained and employees adequately trained to avoid security breaches due to human error (Mean=3.64). The standard deviation was 1.27 implying that the answers were varied from the mean. The result revealed that majority of the agreed with the statement that there are measures to protect HRIS from security problems as a result of damage by employees (Mean=3.65). The standard deviation was 1.23 implying that the answers were varied from the mean. The result revealed that majority of the respondent agreed with the statement that there are safeguards for misuse of computer systems as a result of unauthorized access to or use of information particularly when it is confidential and sensitive (Mean=3.71). The standard deviation was 1.14 suggesting that the answers were varied from the mean.

The result revealed that majority of the respondent agreed with the statement that there are measures to guard against information theft from HRIS (Mean=3.55). The standard deviation was 1.23 deducing that the answers were varied from the mean. These findings were consistent with that of Chen *et al.,* (2011) who found out that protecting organizational information is an essential element of a company's security policy formulation and implementation and in many countries, it is a legal requirement and part of corporate social responsibility. The result revealed that majority of the respondent agreed with the statement that HRIS in this organization has safeguards against computer-based fraud (Mean=3.56). The standard deviation was 1.37 implying that the answers were varied from the mean. These findings agree with that of Kavanagh, Thite and Johnson (2012) who assert that, when large amounts of data are stored in electronic form; are vulnerable to many more kinds of threats than when they exist in manual form. The result revealed that majority of the respondent agreed with the statement that ways of dealing with security threats by viruses, worms and Trojans are in place (Mean=3.87). The standard deviation was 1.38 suggesting that the answers were varied from the mean. The result showed that majority of the respondent agreed with the statement that there are security features to ward off hackers (Mean=3.5).

The standard deviation was 1.45 implying that the answers were varied from the mean. Finally, the result revealed that majority of the respondent agreed with the statement that there are safeguards against spoofing and sniffing (Mean=3.71). The standard deviation was 1.38 implying that the answers were varied from the mean. These results concur with those of Chen, *et al.,* (2011) who argues that protecting organizational information is an essential element of a company's security policy and in many countries, it is also a legal requirements and part of corporate social responsibility. On a five-point scale, the average mean of the responses was 3.65 which mean that majority of the respondents indicated that majority of the respondents were agreeing about the statement; however, the answers were varied as shown by a standard deviation of 1.31. In addition, the respondents were asked to indicate if there were measures put in pace to mitigate loss and disruption of information in the human resource information system in case of natural disasters. Results were presented in Figure 4.8

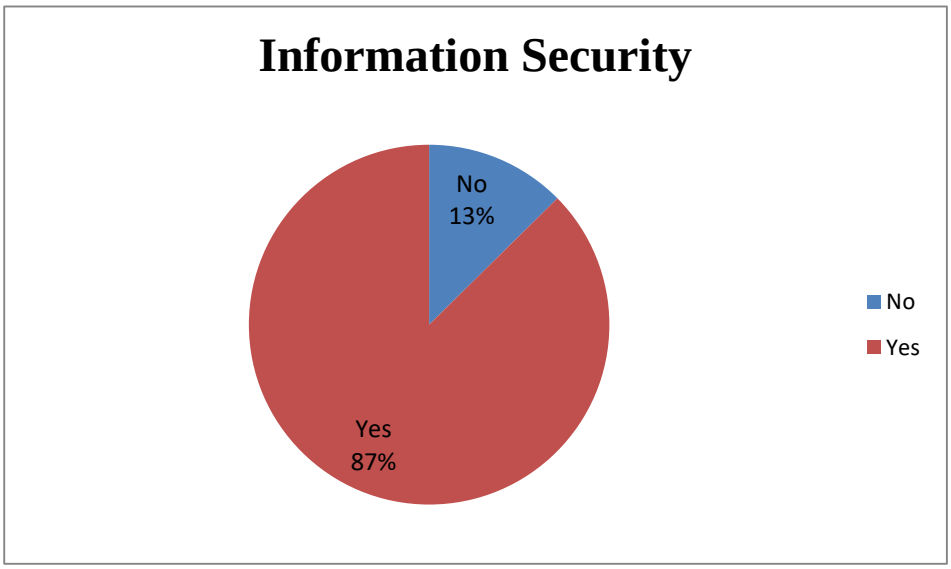

Figure 4.8: HRIS Information Security

Figure 4.8 above revealed that majority of the respondent (87%) indicated that there were measures put in pace to mitigate loss and disruption of information in the human resource information system in case of natural disasters, while only (13%) of the respondents disagreed on there being measures put in pace to mitigate loss and disruption of information in the human resource information system in case of natural disasters. These findings were consistent with that of Chen *et al.*, (2011) who found out that protecting organizational information is an essential element of a company's security policy and in many countries, it is also a legal requirements and part of corporate social responsibility. The respondents were asked to indicate if there are measures to mitigate loss and disruption of information in the human resource information in case of natural disasters. Results were presented in Table 4.20. From the pilot study validity results factor analysis, all indicators of information security were retained for analysis in the main study. Factor analysis was further used for dimension reduction on the main study data collected to generate the latent variable as a composite measure of Information security.The results of the KMO and Bartlett's Test for the factor analysis results of the indicators of information security are summarized in Table 4.20.

Table 4.20: Kaiser-Meyer-Olkin Measure of HRIS Information security

Test		Statistics
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.872
Bartlett's Test of Sphericity	Approx. Chi-Square	643.742
	df	28
	Sig.	.000

The value of the KMO Measure of sampling adequacy for information security was 0.872 as indicated in Table 4.20, which was considered adequate being greater than 0.5. Field (2017) cited that a KMO Value/Degree of Common Variance value of 0.5 is suitable. The significance Bartlett's statistics was also confirmed that the factor analysis results yielded significant distinct and reliable factors. The chi square coefficient of 643.742 and a p-value of 0.000 which is less than 0.05 imply that the correlation matrix is not an Identity matrix therefore there are some relationships between the items allowing possibility of reliable factor extraction. Table 4.21 shows the factor loadings of indicators of HRIS Information security on the latent composite variable.

Table 4.21: HRIS Information Security Factor Loadings

Statements	Component
The HRIS is well designed, maintained and employees adequately trained to avoid security breaches due to human error	.906
There are measures to protect HRIS from security problems as a result of damage by employees	.792
There are safeguards for misuse of computer systems as a result of unauthorized access to or use of information particularly when it is confidential and sensitive	.757
There are measures to guard against information theft from HRIS	.703
HRIS in this organization has safeguards against computer-based fraud	.844
Ways of dealing with security threats by viruses, worms and trojans are in place	.665
There are security features to ward off hackers	.822
There are safeguards against spoofing and sniffing	.819

From the results in Table 4.21 all the indicators loaded the latent variable Information security above 0.4 which is an indication of adequate loading of the items used to measure the construct and uni-dimensionality. The 8 indicators of Information security were thus used to generate a composite and latent variable using the factor scores generated from factor analysis. The continuous (interval) composite measure generated from the indicators was further used for inferential analysis involving information security. From the interviews carried out, a content analysis was carried out on the questions from the interview guide that were based on information security of the organisations. This sought to further assess the status of the phenomenon of information security of the firms based on qualitative information gathered from interviews. Content analysis was based on thematic analysis approach where themes on Information security were sought from the qualitative responses given by the interviewees, coded and the frequency of occurrence of the coded themes assessed and reported in frequency tables. Table 4.22 shows the summary of the coded themes resulting from content analysis of Information security.

Table 4.22: Content Analysis

Themes	Frequency	Percentage
Back up	78	71.4%
No Back up	6	5.0%
Maintenance	26	23.6%
Total	**110**	**100%**

Majority of the respondents 95% (71.4% +23.6%) consented that there were measures to mitigate loss and disruption of information in the human resource information in case of natural disasters, while only 5% of the remainder indicated no were measures to mitigate loss and disruption of information in the human resource information in case of natural disasters. This implies that the organization is well equipped for eminent natural disaster which is very vital for any organization. The respondents were asked to indicate if there were any challenges in regard to job security. Table 4.23 shows the summary of the coded technology adoption themes resulting from content analysis of Information security.

Table 4.23: Content Analysis

Themes	Frequency	Percentage
Adopting technology will render employees jobless	70	63.9%
Initial stages challenges	30	26.9%
No challenges	10	9.2%
Total	**110**	**100%**

Majority of the respondents (63.9%) indicated that adopting technology is a challenge since it will render employees jobless. Another (26.9%) of the respondent indicated that there are challenges in the initial stages while the remaining (9.2%) of the respondent indicated that there are no challenges faced. This implies that most employees of Commercial State Corporation face challenges in their work environment.

4.5.5 Top Management Commitment

The fifth objective was to establish to the moderating influence of top management commitment on organizational performance of Commercial State Corporations in Kenya. This section contains descriptive analysis for top management commitment. A likert scale with options of strongly disagree, disagree, neutral, agree and strongly agree were presented for answering by respondents. The results were presented in form of percentages, mean and standard deviations. Table 4.24 shows the results of the descriptive statistics on Top Management Commitment displaying the frequency/ percentage of respondents per category for each indicator with the mean and standard deviations as the measures of central tendency and measure of dispersion.

Table 4.24: Top Management Commitment

Statement	SD	D	N	A	SA	Mean	Std. Dev
There is adequate budgetary allocation for implementation of HRIS	9.20%	18.50%	16.00%	30.30%	26.10%	3.55	1.31
Decision made by the management are clearly communicated to other stakeholders	12.60%	12.60%	33.60%	22.70%	18.50%	3.52	1.25
The management has a proactive policy for seamless implementation HRIS	8.40%	8.40%	39.50%	26.10%	17.60%	3.36	1.13
Top management has an open but realistic attitude towards ICT	16.00%	17.60%	19.30%	27.70%	19.30%	3.77	1.36
The management has defined the processes for implementation of HRIS	6.70%	14.30%	27.70%	37.80%	13.40%	3.37	1.1
The management has established clear objectives and goals for execution of all processes	5.90%	14.30%	9.20%	63.00%	7.60%	3.52	1.02
The management is involved in the audit of processes to ensure seamless implementation of HRIS	7.60%	10.10%	26.10%	45.40%	10.90%	3.42	1.06
The management take actions based on constant reviews to guide the implementation	7.60%	14.30%	5.90%	42.90%	29.40%	3.72	1.24
Average						**3.52**	**1.18**

The result revealed that majority of the respondent agreed with the statement there is adequate budgetary allocation for implementation of human resource information system (Mean=3.55). The standard deviation was 1.31 implying that the answers were varied from the mean. The result revealed that majority of the respondent agreed with the statement decision made by the management are clearly communicated to other stakeholders in the organization (Mean=3.52). The standard deviation was 1.25 implying that the answers were varied from the mean. These findings agree with that of Barron et al., (2014) who argued that in addition to verbal support on HRIS usage given by top management to their employees, top management can demonstrate their confidence in HRIS by personally utilizing the system.

The result revealed that majority of the respondent were neutral on the statement that the management has a proactive role in continuous policy development for seamless implementation of human resource information system (Mean=3.36). The standard deviation was 1.13 implying that the answers were varied from the mean. The results revealed that majority of the respondent agreed with the statement that top management has an open but realistic attitude towards ICT and bases its decisions on well-grounded expert evaluations (Mean=3.77). The standard deviation was 1.36 implying that the answers were varied from the mean.The result revealed that majority of the respondent agreed with the statement the management has defined the processes for implementation of human resources information system (Mean=3.37). The standard deviation was 1.11 suggesting that the answers were varied from the mean. These findings agree with that of Barron *et al.,* (2014) who argued that in addition to verbal support on HRIS usage given by top management to their employees, top management can demonstrate their confidence in HRIS by personally utilizing the system.The result revealed that majority of the respondent agreed with the statement that the management has established clear objectives and goals for execution of all processes (Mean=3.52).The standard deviation was 1.02 suggesting that the answers were varied from the mean. The result showed that majority of the respondent agreed with the statement that the management is involved in the audit of processes to ensure seamless implementation of human resources information system (Mean=3.42).

The standard deviation was 1.06 suggesting that the answers were varied from the mean. These findings agree with that of Bamel *et al.,* (2014) who argued that in addition to verbal support on HRIS usage given by top management to their employees, top management can demonstrate their confidence in HRIS by personally utilizing the system. Finally, the result revealed that majority of the respondent agreed with the statement the management take actions based on constant reviews to guide the implementation (Mean=3.72). The standard deviation was 1.24 implying that the answers were varied from the mean. The result further revealed that majority of the respondent disagreed with the statement that the management takes actions based on constant reviews to guide the implementation.

These results agree with those of Bamel *et al.,* (2014) who agree that in addition to verbal support on HRIS usage given by top management to their employees, top management can demonstrate their confidence in HRIS by personally utilizing the system. From the pilot study validity results based on factor analysis, 2 indicators of this construct were dropped and thus only 6 indicators were retained for analysis in the main study. Factor analysis was further used for dimension reduction on the main study data collected on the 6 indicators to generate the latent variable as a composite measure of Top management. The results of the KMO and Bartlett's Test for the factor analysis results of the 6 retained indicators of Top Management Commitment are summarized in Table 4.25.

Table 4.25: Kaiser-Meyer-Olkin Measure of Top Management Commitment

Test		Statistics
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.730
Bartlett's Test of Sphericity	Approx. Chi-Square	217.683
	df	15
	Sig.	.000

The value of the KMO Measure of sampling adequacy for top management commitment was 0.730 as indicated in Table 4.25, which was considered adequate being greater than 0.5. Field (2017) asserts that, a KMO Value/Degree of Common Variance value of 0.5 is suitable. The significance Bartlett's statistics was also confirmed that the factor analysis results yielded significant distinct and reliable factors. The chi square coefficient of 217.683 and a p-value of 0.000 which is less than 0.05 imply that the correlation matrix is not an identity matrix therefore there are some relationships between the items allowing possibility of reliable factor extraction. Table 4.26 shows the factor loadings of indicators of top management commitment on the latent and composite variable.

Table 4.26: Top Management Commitment Factor Loadings

Statements	Factor loadings
There is adequate budgetary allocation for implementation of human resource information system	.786
Decision made by the management are clearly communicated to other stakeholders in the organization	.793
The management has a proactive and continuous policy development for seamless implementation of human resource information system	.576
Top management has an open but realistic attitude towards ICT and bases its decisions on well-grounded expert evaluations	.583
The management has defined the processes for implementation of human resources information system	.670
The management is involved in the audit of processes to ensure seamless implementation of human resources information system	.783

From the results in Table 4.26 all the 6 retained indicators loaded the latent variable Top Management Commitment above 0.4 which is an indication of adequate loading of the items used to measure the construct and uni-dimensionality. The 6 indicators of top management commitment were thus used to generate a composite latent variable using the factor scores generated from factor analysis. The observed indicators of top management commitment were measured on a categorical Likert scale however; the composite measure generated from the indicators resulted into a variable measured on a continuous (interval) scale which was further used for inferential analysis. From the interviews carried out, a content analysis was carried out on the questions from the interview guide that were based on top management commitment of the organisations. This sought to further assess the status of the phenomenon of Top Management Commitment of the firms based on qualitative information gathered from interviews.Content analysis was based on thematic analysis approach where themes on top management were sought from the qualitative responses given by the interviewees, coded and the frequency of occurrence of the coded themes assessed and reported in frequency tables. Table 4.27 shows the summary of the coded efficiency themes resulting from content analysis of top management commitment

Table 4.27: Content Analysis

Themes	Frequency	Percentage
Commitment on implementation	85	77.3%
Lack of commitment on implementation	25	22.7%
total	**110**	**100%**

Table 4.27 below revealed that majority of the respondents (77.3%) indicated that commitment has positive influence in implementation of HRIS. Lack of commitment on the other hand as indicated by minority of the respondent (22.7%) had a negative influence on implementation of HRIS in the organization. These findings agree with that of Barron et al. (2014) who argued that in addition to verbal support on HRIS usage given by top management to their employees, top management can demonstrate their confidence in HRIS by personally utilizing the system.

4.5.6 Organizational Performance

The respondents were also asked for their opinions and insights on the dependent variable, organizational performance of commercial state corporations in Kenya. This section contains descriptive analysis for organizational performance. A likert scale with alternatives of strongly disagree, disagree, neutral, agree and strongly agree were presented for answering by respondents. The results were presented in form of percentages, mean and standard deviations. Table 4.28 shows the results of the descriptive statistics of organizational performance displaying the frequency/ percentage of respondents per category for each indicator with the mean and standard deviations as the measures of central tendency and measure of dispersion.

Table 4.28: Organizational Performance

Statement	SD	D	N	A	SA	Mean	Std.Dev
The organization has increased information flow	10.10%	16.00%	22.70%	42.90%	8.40%	3.54	1.13
The employees have saved time per case	8.40%	18.50%	6.70%	42.90%	23.50%	3.55	1.27
There is staff empowerment with ICT skills	17.60%	10.10%	12.60%	33.60%	26.10%	3.40	1.43
The organization has redesigned many processes in HRIS	6.70%	10.10%	11.80%	68.10%	3.40%	3.51	0.96
There is satisfaction in the organization	9.20%	7.60%	16.00%	59.70%	7.60%	3.49	1.06
There is reduced administrative burden in the organization	8.40%	15.10%	11.80%	42.90%	21.80%	3.55	1.23
There is improved openness, transparency and accountability	5.90%	18.50%	9.20%	58.80%	7.60%	3.44	1.06
HRIS helps in supporting decision making activities within the administrative system	6.70%	2.50%	28.60%	37.80%	24.40%	3.71	1.08
The organization is improving the administrative process based on performance measurement output	7.60%	14.30%	28.60%	37.00%	12.60%	3.43	1.11
Average						**3.51**	**1.15**

The result revealed that majority of the respondent agreed with the statement the organization has increased information flow with low overhead costs (Mean=3.54). The standard deviation was 1.13 implying that the answers were varied from the mean. The result revealed that majority of the respondent agreed with the statement the employees have saved time per case or task handled (Mean=3.55). The standard deviation was 1.27 implying that the answers were varied from the mean. The result revealed that majority of the respondent agreed with the statement that there is staff empowerment with ICT skills (Mean=3.4). The standard deviation was 1.43 implying that the answers were varied from the mean. The result revealed that majority of the respondent agreed with the statement the organization has redesigned many processes in human resource management (Mean=3.51). The standard deviation was 0.96 implying that the answers were varied from the mean. The result revealed that majority of the respondent were neutral on the statement there is satisfaction and inclusivity of service in the organization (Mean=3.49). The standard deviation was 1.06 implying that the answers were varied from the mean. The result revealed that majority of the respondent agreed with the statement that there is reduced administrative burden in the organization (Mean=3.55).

The standard deviation was 1.23 implying that the answers were varied from the mean. The result showed that majority of the respondent agreed with the statement there is improved openness, transparency and accountability (Mean=3.44). The standard deviation was 1.06 implying that the answers were varied from the mean. The result showed that majority of the respondent agreed with the statement there is improved openness, transparency and accountability (Mean=3.71). The standard deviation was 1.08 implying that the answers were varied from the mean. Finally, the result revealed that majority of the respondent agreed with the statement that HRIS helps in supporting decision making activities within the administrative system, agreed with the statement HRIS helps in supporting decision making activities within the administrative system (Mean=3.43).

The standard deviation was 1.11 implying that the answers were varied from the mean. The results concur with those of AL-Gharaibeh & Malkawi (2013) who argues that performance is the behavior that accomplishes results. On a five-point scale, the average mean of the responses was 3.51 which mean that majority of the respondents indicated that majority of the respondents were agreeing about the statement; however, the answers were varied as shown by a standard deviation of 1.15. From the pilot study validity results based on factor analysis, one indicator of this construct was dropped and thus only 8 indicators were retained for analysis in the main study. Factor analysis was further used for dimension reduction on the main study data collected on the 8 indicators to generate the latent variable as a composite measure of organizational performance. The results of the KMO and Bartlett's Test for the factor analysis results of the 8 retained indicators of Organizational performance are summarized in Table 4.29.

Table 4.29: Kaiser-Meyer-Olkin Measure of Organizational Performance

Test		Statistics
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.778
Bartlett's Test of Sphericity	Approx. Chi-Square	392.090
	df	28
	Sig.	.000

The value of the KMO Measure of Sampling Adequacy for Organizational performance was 0.778 as indicated in Table 4.29, which was considered adequate being greater than 0.5. Field (2017) avers that a KMO Value/Degree of Common Variance value of 0.5 is suitable. The significance Bartlett's statistics was also confirmed that the factor analysis results yielded significant distinct and reliable factors. The chi square coefficient of 392.090 and a p-value of 0.000 which is less than 0.05 imply that the correlation matrix is not an Identity matrix therefore there are some relationships between the items allowing possibility of reliable factor extraction. Table 4.30 shows the factor loadings of indicators of organizational performance on the latent composite variable.

Table 4.30: Organizational Performance Component Matrix

Statements	Factor loadings
The organization has increased information flow with low overhead costs	0.647
The employees have saved time per case or task handled	0.603
There is staff empowerment with ICT skills	0.714
The organization has redesigned many processes in human resource management	0.502
There is satisfaction and inclusivity of service in the organization	0.664
There is reduced administrative burden in the organization	0.585
There is improved openness, transparency and accountability	0.645
The organization is improving the administrative process based on performance measurement output	0.660

From the results in Table 4.30 all the 8 retained indicators loaded the latent variable Organizational performance above 0.4 which is an indication of adequate loading of the items used to measure the construct and uni-dimensionality. The 8 indicators of Organizational performance were thus used to generate a composite latent variable using the factor scores generated from factor analysis. The observed indicators of Organizational performance were measured on a definite Likert scale however; the composite measure generated from the indicators resulted into a variable measured on a continuous (interval) scale which was further used for inferential analysis. From the interviews carried out, a content analysis was carried out on the questions from the interview guide that were based on performance.

This sought to further assess the status of the phenomenon of performance of the firms based on qualitative information gathered from interviews. Content analysis was based on thematic analysis approach where themes on organizational performance were sought from the qualitative responses given by the interviewees, coded and the frequency of occurrence of the coded themes assessed and reported in frequency tables. The respondents were asked to indicate if they could in any way attribute the good or bad performance to human resource information system. Results were presented in Figure 4.9

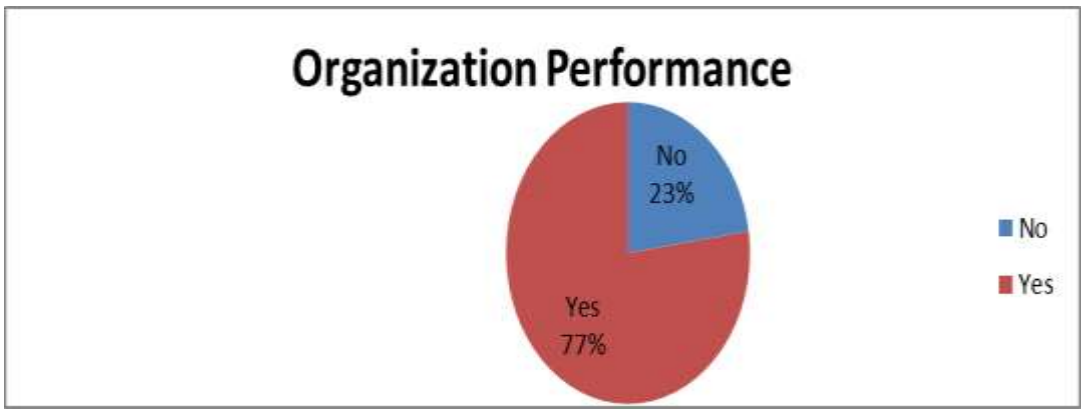

Figure 4.9: Organizational Performance

Results revealed that majority of the respondent (77%) indicated that they could attribute the good or bad performance to human resource information system, while only (23%) of the respondents indicated that they could not attribute the good or bad performance to human resource information system. The respondents were asked to indicate what other aspects of the organization they thought to have illustrated good performance. The respondents were also asked to indicate if they would in any way attribute the good or bad performance to human resource information system. Results were presented in Table 4.31.

Table 4.31: Content Analysis of Organizational Performance

Themes	Frequency	Percentage
Yes	85	77%
	25	23%
Total	**110**	**100%**

Results revealed that majority of the respondent (77%) indicated that they could attribute the good or bad performance to human resource information system, while only (23%) of the respondents indicated that they could not attribute the good or bad performance to human resource information system. Secondary data on organizational performance of commercial state corporations in Kenya revealed that there were subsequent declines and increases in the profits posted in 2013,2014,2015,2016 and 2017 financial years. This further revealed that the mean of profitability in the year 2013 for the Commercial State Corporations was 122284476.3. The profitability increased to 215630871.1 in the years 2014 but decreased to 201779388.6 in the year 2015. However, this mean increased to 223129737.8 in the year 2016 and further increased to 259007160.1. This implies that there has been an increase in profitability of Commercial State Corporations in the last five years.

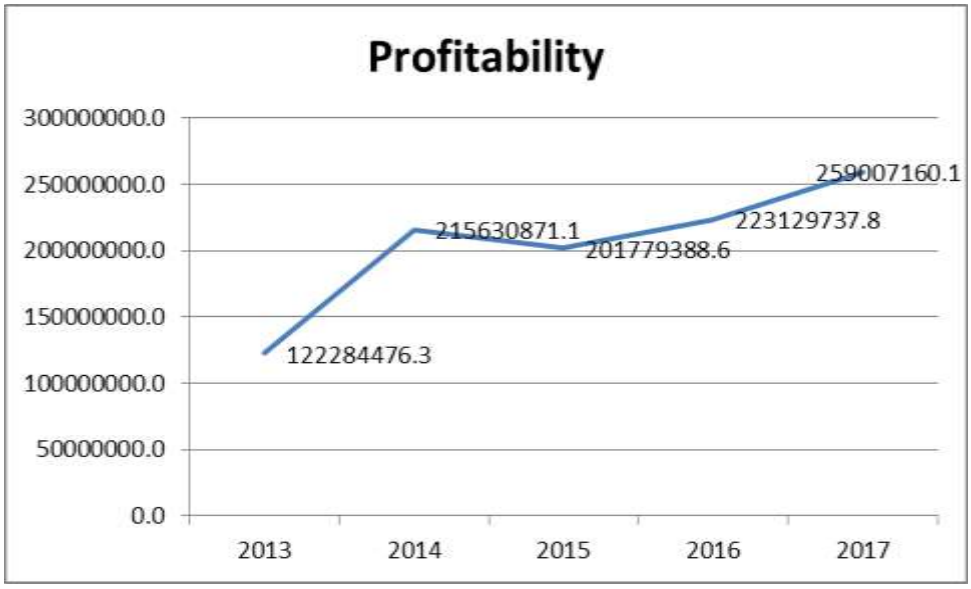

Figure 4.10: Organizational Performance Trend results

In Kenya Power and Lighting Company (KPLC), the profitability in 2013 was 3,225,094. The profitability increased to 3,716,370 in 2014 and further to 4,219,566 in 2015. The profitability further rose to 4,617,116 in 2016 but declined to 4,352,116 in 2017.The profitability of Kenya Seed Company in 2013 was 2,256,526. In 2014, the profitability increased to 3,525,154 but declined to 2,365,689 in 2015.

This was followed an increase to 3,669,691 in 2016. There was a further increase in profitability to 3,956,562 in 2017. The profitability of New KCC in 2013 was 2,133,566. In 2014, the profitability increased to 2,565,199 but declined to 2,320,002 in 2015. This was followed an increase to 4,182,302 in 2016. There was a further increase in profitability to 4,201,530 in 2017. An analysis of variance was carried out to assess whether there are differences in performance across the different industries among the organizations. The p-value of the ANOVA F-statistic was found to be 0.04 which is less than 0.05 to imply that there are significant differences in performance across the industries of the organizations studied. Some industries are significantly performing better than others.

Table 4.32: ANOVA on Organizational Performance between Industries

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between industries	3.678	8	.460	2.084	.040
Within industries	34.411	156	.221		
Total	**38.088**	**164**			

4.6 Diagnostic Tests

4.6.1 Normality

Normality of data was tested using of Shapiro-Wilk test. Shapiro and Wilk were projected and put in print by Samuel Sanford Shapiro and Martin Wilk in 1965 as cited by Gujarati & Porter (2009). It assumed as the most potent test in dominant situations (Ghasemi & Zahediasi, 2012**)**. This test is not considered or adopted when a frequency variable is itemized in any given situation. It is typically used when there is need to evaluate the conjecture of normality of the univariate. This is done by taking the pragmatic aggregate number of scores distributed and drawing a comparison between them and the hypothetical cumulative distribution for a variable which is normally distributed. The null and alternative hypotheses were indicated as follows:

H_0: *The data is not normally distributed*

H_1: *The data is normally distributed*

The ideology is that when the p-value adopted is greater than 0.05, H_0 is not rejected, but when the p -value is less than 0.05, H_0 is rejected and H_1 is accepted. Moreover, if normality tests or postulations are run for datasets with less than 2000 elements, Shapiro-Wilk test is adopted, otherwise, if the elements are greater than 2000 Kolmogorov-Smirnov test is embraced.

Table 4.33: Shapiro Wilk Test and Kolmogorov-Smirnov

	Kolmogorov-Smirnov			**Shapiro-Wilk**		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
ICT Capability	0.111	119	0.001	0.888	119	0.000
HRIS System Quality	0.109	119	0.301	0.96	119	0.051
HRIS Information Quality	0.115	119	0.401	0.926	119	0.076
HRIS Information Security	0.153	119	0.081	0.903	119	0.098
Top management Commitment	0.137	119	0.067	0.941	119	0.201
Organizational Performance	0.15	119	0.087	0.913	119	0.545

The Kolmogorov-Smirnova results for the variables (ICT Capability, HRIS System Quality, HRIS Information Quality, HRIS Information Security, Top Management Commitment and Organizational Performance) were 0.001, 0.301, 0.401, 0.081, 0.067 and 0.087 respectively. The Shapiro Wilk results for the variables ICT Capability, HRIS System Quality, HRIS Information Quality, HRIS Information Security, Top Management Commitment and Organizational Performance were 0.000, 0.051, 0.076, 0.098, 0.201 and 0.545 respectively. These results showed that the data was normally distributed for all the variables adopted by the study indicating that further analysis could be done progressively.

4.6.2 Multicollinearity

William, Burke, Beckman, Morgan, Daly and Litz (2013) agree that multicollinearity is the existence of correlations amongst the predictor variables. In austere or grim situations or cases of perfect correlations amid the predictor variables, multicollinearity could imply that a unique least squares solution to a regression analysis cannot be computed (Field, 2017). Multicollinearity puffs up or inflates the standard errors and confidence intervals resulting to unsteady estimations of the coefficients for distinct predictors (Johnston, Kelvyn, & Manley, 2017).

Table 4.34: Multicollinearity Results

	Tolerance	**VIF**
ICT Capability	0.471	2.125
HRIS System Quality	0.168	5.945
HRIS Information Quality	0.151	6.635
HRIS Information Security	0.091	6.935
Top Management Commitment	0.088	1.102
Mean		**4.548**

In this study, multicollinearity was measured by the Variance Inflation Factor (VIF) method. Field (2017) asserts that a VIF value over and above ten (10) is a clue of the existence of Multicollinearity. The results in Table 4.35 presents Variance Inflation Factors results established were 4.548 which is lesser than or subordinate to 10 and hence agreeing with Field (2017) that there is no Multicollinearity in the data sets.

4.6.3 Heteroscedasticity

Breusch-Pagan test in statistics was proposed, developed and put into print/working paper by Adrian Pagan and Trevor Breusch in 1979 as a test for heteroscedasticity in a linear regression model (Alarcon & Sanchez, 2015). Put forward independently with some extension from Sanford Weisberg and R. Dennis in 1983 (Cook–Weisberg test), Breusch test was a resultant of the langrage multiplier test principle which tests whether the variance from errors from a regression are dependent on the variables of

the experimental/predictors variables. This confirms presence of heteroscedasticity (Creswell, 2014; Babbie, 2016).

Knaub (2007) avers that the glitch or presence of an error in the method used could indicate homoscedastic in the cross-sectional units, while the variance could differ across units: a state that can be described as group wise heteroscedasticity. The study adopted Breusch- Pagan test to assess the level of heteroscedasticity. Breusch- Pagan test assesses heteroscedasticy in a linear regression model besides assuming that the error terms are normally distribution (Kaur, 2015; Neuman, 2011). Additionally, it evaluates whether the variance of errors from a regression model is dependent on the values of the explanatory/predictor variables (Field,2017). The postulation was that the data used did not suffer from heteroscedasticity since the p-value used was greater than the 0.05. Otherwise, the data was said to be homoscedastic.

Table 4.35: Heteroscedasticity test

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	0.224	0.145		1.538	0.126
ICT Capability	0.059	0.031	0.176	1.883	0.061
HRIS System Quality	-0.051	0.028	-0.147	-1.817	0.071
HRIS Information Quality	0.006	0.031	0.018	0.19	0.849
HRIS Information Security	0.026	0.028	0.090	0.917	0.360
Top Management Commitment	-0.036	0.03	-0.110	-1.188	0.237
Mean	**-0.027**	**0.027**	**-0.094**	**-1.009**	**0. 315**

The results presented in the table above showed that the p-value of all the study variables were above 0.05 implying that there was no heteroscedasticity observed.

4.7 Correlation Results

Correlation analysis was conducted to quantify the relationship between the independent/predictors variables (ICT Capability, HRIS System Quality, HRIS Information Quality, HRIS Information Safety) the moderating variable (Top Management Commitment) and the dependent variable (Organizational Performance). Pearson Product Moment correlation coefficient (r) which ranges between -1 and +1 and quantifies the direction and strength of the linear association between the two variables was used. The results are presented in Table 4.33.

Table 4.36: Overall Correlation Matrix

		Performance	ICT_ Capability	System_ Quality	Info_ Quality	Info_ Security	Top_Mgt _ Com
Performance	Pearson Correlation	1	0.51	.654**	.716**	.508**	.146
	Sig. (2-tailed)		.579	.000	.000	.000	.113
	N	110	110	110	110	110	110
ICT_ Capability	Pearson Correlation	.051	1	.370**	.104	.400**	.508**
	Sig. (2-tailed)	-.579		.000	.259	.000	.000
	N	110	110	110	110	110	110
HRIS System_ Quality	Pearson Correlation	.654**	.370**	1	.656**	.572**	.269**
	Sig. (2-tailed)	.000	.000		.000	.000	.003
	N	110	110	110	110	110	110
HRIS Info_ Quality	Pearson Correlation	.716**	.104	.656**	1	.666**	.055
	Sig. (2-tailed)	.000	.259	.000		.000	.553
	N	110	110	110	110	110	110
HRIS Info_ Security	Pearson Correlation	.508**	.400**	.572**	.666**	1	.299**
	Sig. (2-tailed)	.000	.000	.000	.000		.001
	N	110	110	110	110	110	110
Top_ Mgt_Com.	Pearson Correlation	.146	.508**	.269**	.055	.299**	1
	Sig. (2-tailed)	.113	.000	.003	.553	.001	
	N	110	110	110	110	110	110

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

The results revealed that ICT capability has significant relationship with organizational performance (r= 0.051, p=0.579). These findings were consistent with that of Troshani, Jerram & Gerrard (2011) who found out that HRIS can be used as a source for achieving cost savings and inimitable competitive advantage. The results revealed that HRIS system quality have a positive and significant association with organizational performance (r= 0.654, p=0.000). These findings were consistent with that of AL-Gharaibeh & Malkawi, (2013) who found out that software vendors are increasing the ability of their packages to integrate with other typical organization applications**.**

The results revealed that HRIS information quality have a positive and significant association with organizational performance (r= 0.716, p=0.000). These findings were consistent with that of (Bocij, Greasley & Hickie (2015) who suggested that data is the spark of life/trigger in modern day organizations and the effective and efficient management of data is considered a central part in the formulation of organizational strategies. The results revealed that HRIS information security have a positive and significant association with organizational performance (r= 0.508, p=0.000). These findings were consistent with that of Chen & Hsiao (2012) who found out that organizational information protection is an essential element in the company's security policies and in most countries globally it is a legal requirement as well as a constituent of corporate social responsibility. The results revealed that top management commitment had a positive and significant association with organizational performance (r= 0.146, p=0.113). These findings were consistent with that of Weir (2013) who confirmed that the conditions in the firm's external and internal environment could enable and/ constrain the capacity of HR systems to develop and exploit organizational competencies.

4.8 Regression Analysis ICT Capability

The diagnostic tests confirmed that the model fitted between ICT Capability and organizational performance met all the linear modeling assumptions. The model summary table 4.37 provides information regarding the ability of the regression line to predict the variation in the dependent variable.

Table 4.37: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.051a	.660	-.006	1.002

Predictors: (Constant), ICT capability

The coefficient of determination (R-square) also referred to as the explanatory power of this model was found to be 0.660. This is shows that 66.0% of the variation in performance of the Commercial State Corporations in Kenya is explained by the variation of predictors in the model (ICT Capability). The difference percentage, 34.0% is the portion of variance explained by other factors that have not been

included in this model that only considered ICT Capability. Table 4.38 provides the results on the analysis of the variance (ANOVA).

Table 4.38: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.312	1	.312	.310	.579b
	Residual	117.689	117	1.006		
	Total	118.001	118			

The results indicate that the model on the direct influence of ICT capability on organizational performance was insignificant as supported by a p-value of 0.579 which is greater than the level of significance of 0.05. The direct bivariate influence of ICT capability on organizational performance was thus found to be significant in this study which agrees with Ntoetia (2012) concluded that Information Communication Technology Capability has a positive influence on organizational Performance.

Table 4.39: Regression of Coefficient

Model		Unstandardized B	Std. Error	Standardized Beta	T	Sig.
1	(Constant)	-6.676E-008	.092		.000	1.000
	ICT capability	-.051	.092	-.051	-.556	.579

Regression of coefficients showed that ICT capability has no significant direct effect on performance (β=-0.051, t=-0.556, p=0.579). Mukulu, Karanja & Warui (2015) however concluded that information communication technology has a positive effect on organizational performance.

4.9 Regression analysis of HRIS System Quality

The diagnostic tests confirmed that the model fitted between system quality and performance met all the linear modeling assumptions. The model summary table 4.40 provides information regarding the ability of the regression line to predict the

variation in the dependent variable. The coefficient of determination (R-squared) also referred to as the explanatory power of the model was found to be 0.428.

Table 4.40: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.654a	.572	.423	.759

The results revealed that the model had an R square of 0.428. This is shows that 57.8% of the variation in organizational performance of the Commercial State Corporations in Kenya is explained by the variation of predictors in the model (system quality). The difference percentage, 42.8% is the portion of variance explained by other factors that have not been included in this model that only considered HRIS system quality. Bocij, Greasley & Hickie (2015) found that business information systems help to improve customer satisfaction through reducing errors by better programming and testing practices. Table 4.41 provides the results on the analysis of the variance (ANOVA).

Table 4.41: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	50.471	1	50.471	87.445	.000b
	Residual	67.529	117	.577		
	Total	118.000	118			

The results indicate that the model on the direct effect of system quality on organizational performance was significant as supported by a p value of 0.000 which is less than the level of significance of 0.05. The direct bivariate effect of system quality on organizational performance was thus found to be significant in this study however which agree with the findings of Bamel *et al*., (2014) who stated that business developing information systems helps to improve customer satisfaction through reducing errors by better programming and testing practices.

Table 4.42: Regression of Coefficient

Model		Unstandardized B	Std. Error	Standardized Beta	T	Sig.
1	(Constant)	-3.039E-007	.070		.000	1.000
	HRIS System Quality	.654	.070	.654	9.351	.000

Regression of coefficients showed that system quality has a positive and significant direct effect on organizational performance (β=0.654, t=9.351, p=0.000). These findings agreed with that of Chen & Hsiao (2012) also established that quality of systems is directly and strongly associated with decision-making process and satisfaction by the executives, therefore the proliferation of system quality led to increased satisfaction in the decision-making process.

Y = 0.654X + *e*

4.10 Regression Analysis of HRIS Information Quality

The diagnosis thus revealed that the fitted model met all the assumptions of linear regression models. The model summary table 4.43 provides information regarding the ability of the regression line to predict the variation in the dependent variable. The coefficient of determination (R-square) also referred to as the explanatory power of this model was found to be 0.512. This is shows that 51.2% variation in performance of the Commercial State Corporations in Kenya is explained by the variation of predictors in the model (HRIS information quality).

The difference 48.8% is the portion of variance explained by other factors that have not been included in this model. These findings agreed with that of Hameed & Counsel (2012) who concluded that HRIS information quality is the élan vital of present-day organizations and the effective and efficient management of data is considered very instrumental in boosting performance.

Table 4.43: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.716a	.512	.508	.701

Table 4.44 provides the results on the analysis of the variance (ANOVA). The results indicate that the model on the direct effect of HRIS Information quality on organizational performance was significant as supported by a p value of 0.000 which is less than the level of significance of 0.05. The direct bivariate effect of information quality on organizational performance was thus found to be significant in this study which agrees with the findings of Kapoor & Sherif, (2012) who concluded that information quality is vital of today's organizations and the effective and efficient management of data is considered an integral part of performance.

Table 4.44: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	60.452	1	60.452	122.902	.000b
	Residual	57.549	117	.492		
	Total	118.001	118			

Regression of coefficients on table 4.45 showed that HRIS information quality has a positive and significant direct effect on organizational performance (β=0.716, t=11.086, p=0.000). The findings are in line with those of Almamary *et al.,* (2014) agree that proper management of information systems refines information quality and consequently improves the process of decision-making.

$$\mathbf{Y = 0.716 + 0.716X_1 + \mathit{e}}$$

Where X_1 is HRIS Information Quality while Y is Organizational Performance

Table 4.45: Regression of Coefficient

Model		Unstandardized B	Std. Error	Standardized Beta	t	Sig.
1	(Constant)	8.182E-007	.064		.000	1.000
	HRIS Information quality	.716	.065	.716	11.086	.000

4.11 Regression analysis of HRIS Information Security

Information Security was found to be satisfactory variable in explaining performance. This is supported by coefficient of determination also known as the R square of 35.8%. This means that information security explains 35.8% of the variations in the dependent variable which is organizational performance. This also implies that 64.2 % of the variation in the dependent variable is attributed to other variables not captured in the model. These findings agreed with that of Palmer, Dunford and Akin (2009) who found out that protecting organizational information is an essential element of a company's security policy and in many countries, it is also a legal requirement (cyber-security laws) and part of corporate social responsibility.

Table 4.33: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.508a	.358	.251	.865

Table 4.47 provides the results on the analysis of the variance (ANOVA). The results indicate that the model on the direct influence of information security on organizational performance was significant as supported by a p -value of 0.000 which is less than the level of significance of 0.05.The direct bivariate influence of HRIS Information Security on organizational performance was thus found to be significant in this study however which agree with the findings of Palmer, Dunford & Akin (2009) who found out that protecting any firm's information is an integral constituent of a company's security policy and in many countries it is also a legal requirement and part of any given organization's corporate social responsibility.

Table 4.47: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.413	1	30.413	40.626	.000b
	Residual	87.587	117	.749		
	Total	118.000	118			

Regression of coefficients showed that HRIS system quality has a positive and significant and direct influence on organizational performance (β=0.508, t=6.374, p=0.000). These findings agreed with that of Palmer, Dunford & Akin (2009) who found out that protecting any firm's information is an integral constituent of a company's security policy and in many countries, it is also a legal requirement and part of any given organization's corporate social responsibility.

$Y = 0.508X + e$

Where X is HRIS information security while Y is organizational performance

These findings agreed with that of Beadles *et al.,* (2015) found out that confidentiality of employees' data builds trust, confidence and loyalty amongst the stakeholders (employer, employee and business owners) which ultimately enhances employee productivity.

Table 4.48: Regression of Coefficient

	Unstandardized B	Std. Error	Standardized Beta	T	Sig.
(Constant)	-5.96E-007	.079		.000	1.000
HRIS Information Security	.508	.080	.508	6.374	.000

4.12 Multiple Regression Analysis

Multiple Regression Model (MRM) is a statistical method/approach that examines the correlation/relationship between a distinct dependent variable and a number of independent variables (Creswell, & Clark, 2018).

Cutting-edge academic investigation or work focusing on market driven or related topics, the R^2 values of 0.75, 0.50, or 0.25 for latent variables which are endogenous in nature can, as a serrated rule of thumb, be separately appreciated as substantial/considerable, reasonable/moderate, or weak (Henseler, & Fassott, 2010; Chicco, Warrens, & Jurman, 2021). A multiple regression analysis was done/carried out to examine the relationship between human resource information system and organizational performance of Commercial State Corporations in Kenya. The model diagnostic tests carried out on the multiple regression model fitted between human resource information system and performance met all the linear tested assumptions. The model summary table 4.49 provides information regarding the ability of the regression model to estimate the variability in the dependent variable.

The coefficient of determination (R-square/R-squared) also referred to as the explanatory power of this model was found to be 0.640. This is shows that 64.0% of the variation in performance of the Commercial State Corporations in Kenya is explained by the variation of predictors in the multiple regression models which included all the study independent variables. The difference percentage, 36.0% is the portion of variance explained by other factors that have not been included in this model (in this study).

Table 4.49: Goodness of Fit

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.800a	.640	.627	.610

a: Predictors (constant): ICT capability, HRIS System quality, HRIS Information quality, HRIS Information Security

Table 4.50 provides the results on the analysis of the variance (ANOVA). The results indicate that the overall model on the influence of Human resource information system on organizational performance was significant as supported by a p value of 0.000 which is less than the level of significance of 0.05. The direct bivariate effect of Human Resource Information System on organizational Performance was thus found to be significant.

Table 4.50: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	75.487	4	18.872	50.605	.000b
Residual	42.513	114	.373		
Total	118.000	118			

The results presented on table 4.51 show that the significant joint influence of Human Resource Information System is attributed to the significant coefficient estimates of ICT Capability, HRIS System quality, HRIS Information quality that had p-values less than 0.05. The coefficient estimate of ICT capability was also found to be significant in this model (β=-0.310, t=-4.616, p=0.000).

$$Y = -0.310X_1 + 0.457X_2 + 0.362X_3 + 0.129X_4 + \varepsilon$$

Where X_1 is ICT Capability, X_2 is HRIS System Quality, X_3 is HRIS Information Quality, and X_4 is HRIS Information Security while Y is Organizational Performance.

Table 4.51: Regression of Coefficient

	Unstandardized Beta		Standardized Beta		
	B	Std. Error	β	T	Sig.
(Constant)	1.931E-007	.056		.000	1.000
ICT Capability	-.310	.067	-.310	-4.616	.000
HRIS System quality	.457	.082	.457	5.608	.000
HRIS Information quality	.362	.091	.362	3.995	.000
HRIS Information Security	.129	0.05	.129	2.523	.013

4.13 Hypotheses Testing

The results of the multiple regression models were used as the test criteria for the first four hypotheses of the study

H_{01}: ICT capability has no influence on organizational performance of Commercial State Corporations in Kenya

The multiple regression model results revealed that ICT capability significantly affects organizational performance as supported by a p value of 0.000 which is less than the level of significance of 0.05. The p-value of the t-statistic was less than 0.05 thus the null hypothesis was rejected and a conclusion drawn that ICT capability has a significant influence on organizational performance in Commercial State Corporations in Kenya. These findings agreed with that of Warui (2016) who argued that insufficient IT facilities as well as inadequate networked facilities affected adoption of HRIS.

H_{02}: HRIS System quality has no influence organizational performance of Commercial State Corporations in Kenya

The multiple regression model results revealed that system quality significantly affect performance as supported by a p-value of 0.000 which is less than the level of significance of 0.05. The p-value of the t-statistic was less than 0.05 thus the null hypothesis was rejected and a conclusion drawn that HRIS system quality has a significant influence on organizational performance in Commercial State Corporations in Kenya. These findings agree with that of Bocij, Greasley & Hickie (2015) who argued that data is the stimulus of life in modern organizations and the effective and efficient management of data is considered an essential part of any given organizational strategy.

H_{03}: HRIS Information quality has no influence organizational performance of Commercial State Corporations in Kenya.

The multiple regression model results revealed that HRIS information quality significantly affect organizational performance as supported by a p value of 0.000 which is less than the level of significance of 0.05. The p-value of the t-statistic was less than 0.05 thus the null hypothesis was rejected and a conclusion drawn that information quality has a significant influence on organizational performance in Commercial State Corporations in Kenya. These findings agree with that of Bocij, Greasley & Hickie (2015) who argued that data is the spark of life in modern organizations and the effective and efficient management of data is considered an essential part of any given organizational strategy.

H_{04}: HRIS Information Security has no significantly influence organizational performance of Commercial State Corporations in Kenya.

The multiple regression model results revealed that HRIS Information security significantly affect organizational performance as supported by a p value of 0.013 which is less than the level of significance of 0.05. The p-value of the t-statistic was less than 0.05 thus the null hypothesis was rejected and a conclusion drawn that HRIS information security has a significant influence on organizational performance of Commercial State Corporations in Kenya.

4.14 Moderating Influence of Top Management Commitment

To assess the moderating influence of Top Management Commitment on the relationship between human resource information systems and organizational performance of Commercial State Corporations in Kenya, a hierarchical moderated regression model was fitted. Todd *et al.,* (2004) argued that the moderating effect is modelled by generating interaction terms (XZ) as cross products of the each of independent variables (X) and the hypothesised moderating variable (Z). The hypothesis was tested by using stepwise regression analysis. The acceptance/rejection criteria were that, if the p value is less than 0.05, the H_o is rejected.

H_{05}: Top management commitment has no influence on moderating influence of Human Resource Information Systems on organizational performance in Commercial State Corporations in Kenya.

Table 4.52 shows the model summary of the hierarchical regression model which was based on 3 steps. In step one, the independent variables, ICT Capability, HRIS System quality, HRIS Information Quality and HRIS Information Security were regressed on the dependent variable (Organizational Performance) yielding results as carried out in the multiple regression models. In step 2 the moderating variable top management commitment was included to the model as another predictor of organizational performance and in step 3 the interaction terms between each regressor and the moderator was introduced.

Table 4.52: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2	Sig. F Change
1	.800a	.640	.627	.61067	.640	50.605	4	114	.000
2	.813b	.661	.646	.59522	.021	6.995	1	113	.009
3	.853c	.728	.706	.54220	.068	6.795	4	109	.000

4.15 Overall regression before moderation

Regression analysis was done to determine the relationship between the human resource information system and the organizational performance of commercial state corporations in Kenya. Results are presented below.

Table 4.53: Model fitness

Model	R	R Square	Adjusted R Square	Std. error of the Estimate
1	.788a	0.622	0.608	0.46766

a. Dependent Variable: Organizational Performance of Commercial State Corporations in Kenya

The human resource information system was found to be a satisfactory variable in explaining organizational performance. This is supported by a coefficient of determination also known as the R square of 62.2%. This means that top management explains 62.2% of the variations in the dependent variable which is organizational performance

Table 4.54: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	40.967	4	10.242	46.83	.000b
Residual	24.932	114	0.219		
Total	**65.899**	**118**			

a. Dependent Variable: Organizational Performance of Commercial State Corporations in Kenya
b. Predictors: ICT Capability, HRIS Information Security; HRIS Information Quality, HRIS Systems Quality

Table 4.54 provides the results of the analysis of the variance (ANOVA). The results indicate that the overall model was statistically significant as supported by a p value of 0.000 which is lesser than the critical p value of 0.05. This was supported by an F statistic of 46.83 which implies that a human resource information system is a good predictor of organizational performance.

Table 4.55: Regression of Coefficient

	β	**Std. Error**	**T**	**Sig.**
(Constant)	-1.001	0.444	-2.256	0.026
ICT capability	0.155	0.09	7.664	**0.000**
HRIS System quality	0.083	0.111	2.211	**0.029**
HRIS Information quality	0.035	0.09	2.015	**0.046**
HRIS Information security	0.071	0.095	4.495	**0.000**

Regression of coefficients showed that ICT capability and organizational performance were positively and significantly related (β=0.155, p=0.000). These findings agreed with that of Warui (2016) who argued that insufficient IT facilities, as well as inadequate networked facilities, affected the adoption of HRIS. The results revealed that HRIS system quality and organizational performance were negatively and significantly related (β=-0.083, p=0.029). These findings agreed with that of Landrum *et al.,* (2008) who supported that HRIS System quality is positively correlated to organizational performance. The results revealed that HRIS information quality and organizational performance were negatively and insignificantly related (β=-0.035, p=0.046). These findings agree with that of Bocij, Greasley, and Hickie (2015) who affirmed that processed data is contributory to the growth and development of contemporary organizations globally and the effective and efficient management of data is considered an integral part of organizational strategy. Regression of coefficients also showed that HRIS Information security and organizational performance were positively and significantly related (β=0.071, p=0.000). These findings were consistent with that of Palmer, Dunford, and Akin (2009) who found out that protecting organizational information is an essential element of a company's security policy and in many countries; it is also a legal requirement and part of corporate social responsibility.

$$\mathbf{Y = -1.001 + 0.155X_1 + 0.083\ X_2 + 0.035X_3 + 0.071X_4 + \mathit{e}}$$

Where X_1 is ICT Capability, X_2 is HRIS System quality, X_3 is HRIS information quality, X_4 is HRIS information security, X_5 is Top management commitment while Y is Organizational performance.

4.16 Overall Regression after Moderation

Table 4.56: Model fitness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.884a	0.7127	0.701	0.47197

Predictors: ICT Capability, HRIS Information Security, HRIS Information Quality, HRIS Systems Quality.The R^2 improved from 62.2% to 71.27% after moderation. This implies that Top Management Commitment moderates the relationship between Human Resource Information System and organizational performance of Commercial State Corporations in Kenya.

Table 4.57: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	40.504	4	10.126	75.457	.000b
Residual	25.395	114	0.223		
Total	65.899	118			

a. Dependent Variable: Organizational Performance of Commercial State Corporations in Kenya

b. Predictors: ICT Capability, HRIS Information Security; HRIS Information Quality, HRIS Systems Quality

The results imply that the overall effect after moderation is significant. In addition, F statistic increased from 46.83 to 75.457.

Table 4.34: Regression of Coefficient

	B	Std. Error	t	Sig.
(Constant)	1.1	0.217	5.067	0.000
ICT Capability*Top Management Commitment	0.692	0.022	7.175	0.000
HRIS System Quality*Top Management Commitment	0.246	0.022	3.707	0.000
HRIS Information Quality*Top Management Commitment	0.182	0.027	1.294	0.037
HRIS Information Security *Top Management Commitment	0.427	0.026	2.742	0.007

The results revealed that Top Management Commitment positively and significantly moderates the relationship between ICT Capability and organizational performance of Commercial State Corporations (β = 0.155, p=0.000). These findings agree with that of Normalini, Kassim, and Kurnia (2012) agree that IT infrastructure can also be a set of firm wide services budgeted by management and comprising both human and technical capabilities. In addition, the results revealed that top management commitment positively and significantly moderates the relationship between HRIS system quality and organizational performance of commercial state corporations (β = 0.083, p=0.000). These findings agree with that Halawi *et al.,* (2008) maintained that there is a positive relationship between HRIS system quality and user satisfaction of a knowledge management system.

The results revealed that top management commitment positively and significantly moderates the relationship between HRIS information quality and organizational performance of commercial state corporations (β = 0.035, p=0.198). In addition the results revealed that top management commitment positively and significantly moderates the relationship between HRIS information security and organizational performance of Commercial State Corporations (β=0.071, p=0.007).These findings agree with that of Barron, Chhabra, Hanscome, and Henson (2014) who argued that in addition to verbal support on HRIS usage given by top management to their employees, top management can demonstrate their confidence in HRIS by personally utilizing the system.

Further, the results agree with Syaifullah (2017) who established that Top Management Commitment is a fundamental driver in influencing the success of all activities and initiatives related to information processing and management

$$\mathbf{Y = 1.1 + 0.692X_1M + 0.246\ X_2\ M + 0.182X_3\ M + 0.427\ X_4\ M + \boldsymbol{e}}$$

Where X_1 is ICT Capability, X_2 is HRIS Information Security X_3 is HRIS System Quality, X_4 is HRIS Information quality, and M is Top Management Commitment while Y is Organizational Performance.

4.17 Optimal Model

An optimal/ideal model for the research study was derived from the regression coefficients of the overall moderated study model. From the overall regression model, it was evident that ICT Capability had more influence on organizational performance as compared to HRIS System Quality, HRIS Information Security and HRIS Information Quality.

$$\mathbf{Y = 1.1 + 0.692X_1 + 0.246\ X_2 + 0.182X_3 + 0.427\ X_4 + \boldsymbol{e}}$$

Where:

Y is Organizational Performance of Commercial State Corporations

X_1 is ICT Capability

X_2 is HRIS System Quality

X_3 is HRIS Information Security

X_4 is HRIS Information Quality and

ε - Error term

The revised conceptual framework was founded by dropping irrelevant variables and retaining those which were significant. The independent variables were also rearranged depending in order of their influence on the dependent variable. Results of the new conceptual framework are presented in Figure 4.12.

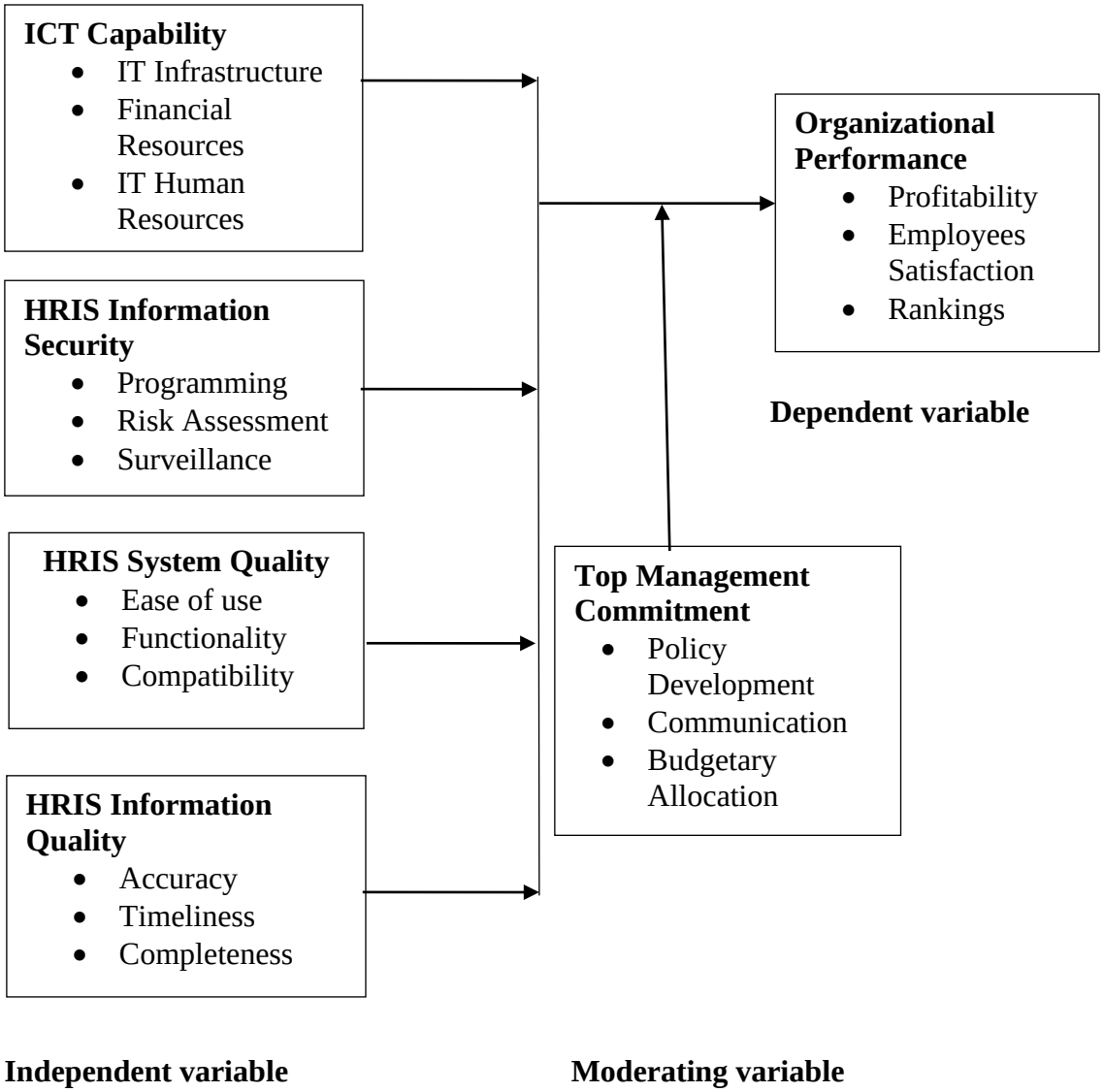

Figure 4.11: Revised Conceptual Framework

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter covers the summary of findings of the study in accordance with the research objectives and hypotheses and a discussion of the conclusions of the results or research outcomes. Finally, recommendations were made based on the findings of the Human Resource Information Systems, Top Management Commitment on Organizational Performance of Commercial State Corporations in Kenya 5.2 Summary of Major Findings

This section contained the summary of the findings which was done as per the study objective. The objectives were; to examine the influence of ICT capability on organizational performance in Commercial State Corporations in Kenya; to determine the influence of HRIS system quality on organizational performance in Commercial State Corporations in Kenya; to assess the influence of HRIS information quality on organizational performance in Commercial State Corporations in Kenya; to determine the influence of HRIS information security on organizational performance in Commercial State Corporations in Kenya. To evaluate the moderating effect of Top Management Commitment on the relationship between Human Resource Information System and Organizational Performance of Commercial State Corporations in Kenya

5.2.1 ICT Capability

The first objective of the study was to examine the influence of ICT capability on organizational performance of Commercial State Corporations in Kenya. The results revealed high scores of the indicators and dimensions used to measure ICT capability in present organizations. The results showed that there agreed with the study indicators. Further, the result revealed that organizations needed basic IT infrastructure put in place as well as sufficient and satisfactory skills, capabilities, and competencies in information technology amongst its human resources.

The result also disclosed an agreement that the software and hardware needed standardization to fashion their organizational needs, besides giving passable and adequate training on systems used to the staff and managers. Correlation and bivariate simple regression results however indicated that ICT capability and organization performance have no significant relationship. However, the multiple regression model results revealed that ICT capability has a joint influence on performance when included in the model with other dimensions of the Human Resource Information System.

5.2.2 HRIS System Quality

The second objective of the study was to establish to the influence of HRIS system quality on organizational performance of Commercial State Corporations in Kenya. The descriptive analysis results revealed that all the indicators had scores of above 3.0 implying that the respondents were in agreement with the level of systems quality in their organizations. The results also revealed that the human resource information system allows for flexibility in performing different job tasks and functions, easy to use, reliable, stable which ultimately leads to improved customer focus and satisfaction. Further, the results showed that there was enhanced safety of information in human resource information systems and that the systems were in well-matched or compatible with other system applications in these organizations which sufficiently meet the intended purposes. The correlation results indicated that system quality and performance have a positive and significant relationship. Regression results further revealed that system quality has a significant influence on organizational performance.

5.2.3 HRIS Information Quality

The third objective of the study was to assess the influence of HRIS information quality on organizational performance of Commercial State Corporations in Kenya. The descriptive statistics results revealed that all the dimensions of information quality had high scores implying agreement with human resource information system and quality of information.

Thus, the results confirmed that human resource information system should be accurate, relevant, have sufficient data, provide timely data, updated regularly and are exhaustive and vibrant. The result revealed that information provided by the human resources information system covers adequate time period. The correlation analysis results revealed that information quality and organization performance have a positive and significant relationship. Regression results further revealed that information quality significantly influences organizational performance of Commercial State Corporations in Kenya.

5.2.4 HRIS Information Security

The fourth objective of the study was to establish to the influence of information security on organizational performance of Commercial State Corporations in Kenya. The descriptive analysis results showed that agreement on the security and privacy of the organizational information as all the indicators of had high scores above 3.0. The result revealed agreement by the respondents that HRIS is well designed, maintained and employees adequately trained to avoid security breaches due to human error. There was also agreement that the organizations have measures to protect HRIS from security problems as a result of damage by employees and have put in place safeguards for misuse of computer systems as a result of unauthorized access to or use of information particularly when it is confidential and sensitive. The correlation results indicated that information security has a positive significant relationship with organizational performance. The regression results further revealed that information security significantly influences organizational performance in Commercial State Corporations in Kenya.

5.2.5 Top Management Commitment

The fifth objective of the study was determining the moderating effect of top management commitment on the relationship between human resource information system and organizational performance of Commercial State Corporations in Kenya. The descriptive results on top management commitment revealed agreement of commitment as all the indicators had average scores above 3.0.

The result revealed agreement that there is adequate budgetary allocation for implementation of human resource information system and that decisions made by the management are clearly communicated to other stakeholders in the organization. The result revealed also revealed agreement that the management has a proactive and continuous policy development for seamless implementation of human resource information system and has an open but realistic attitude towards ICT and bases its decisions on well-grounded expert evaluations. The direct pairwise correlation analysis results indicated that top management commitment and performance has no significant relationship. The moderated multiple regression (MMR) analysis results on the other hand revealed that top management has a significant direct effect on organizational performance. To assess the moderating effect the interaction terms between the human resource information, system dimensions were added to the MMR model and the effect of the addition assessed. The results revealed that top management commitment has a significant moderating effect on the relationship between human resource information system and organizational performance in Commercial State Corporations in Kenya.

5.3 Conclusions of the Study

The study generally concluded that Human resource information systems significantly influence the organizational performance in Commercial State Corporations in Kenya. From the findings it can be inferred that the dimensions of Human resource information systems significantly influence the organizational performance of Commercial State Corporations in Kenya. Specifically, the study concluded that ICT capability significantly influence the organizational performance in commercial state corporations in Kenya. The multiple regression analysis results were used to test the hypothesis. The p-value of the coefficient estimate was found to be less than 0.05 thus the null hypothesis was rejected and a conclusion drawn that ICT capability significantly influences the organizational performance in Commercial State Corporations in Kenya. ICT strategy and the overall business strategy of an organization can be linked to strategic plan annually.

The study concluded that the IT system is harmonized to manage all administrative costs. Further, emphasis should be laid on how human centered information management to improve information usage and sharing amongst employees. The software and hardware can be standardized to suit organizational needs. Moreover, the results concluded that adequate training on system use to employees and managers is essential in improving quality of work and hence achieve organizational goals. The study concluded that high quality of the system culminates to high quality of the information given the fact that HRIS System quality had a significant influence on organizational performance of Commercial State Corporations in Kenya. The multiple regression model results revealed that the p-value of the coefficient estimate was less than 0.05 thus the null hypothesis was rejected and a conclusion drawn that HRIS System quality has a significant influence on organizational performance of Commercial State Corporations in Kenya. The quality of information output is strongly associated with technical and service aspects of the system, that is, HRIS system quality. High quality of the system leads to decision makers' satisfaction and also exhibits significantly positive influence on user satisfaction.

The higher the level of IS competency the higher the degree of satisfaction in system quality, information quality and overall user satisfaction. The study also sought to assess the influence of HRIS information quality on organizational performance of Commercial State Corporations in Kenya. The study regression analysis results used to the hypothesis related to this objective showed that the p-value of the coefficient estimate was found to be less than 0.05 thus the null hypothesis was rejected and a conclusion drawn that Information quality significantly affect organizational performance of Commercial State Corporations in Kenya. In today's enterprises, data is decisive, and good and efficient data management is seen as a crucial component of both organizational and overall corporate strategy. Aiming to gather and analyze high-quality data, which frequently results in high-quality knowledge, is a strategy for successful organizations.

For a successful and effective managerial decision making, is necessary as it provides accurate, timely and relevant information to decision makers who are also the policy makers. Moreover, management information system improves information quality and consequently improved efficacy in the managerial decision-making process. Protecting the firm's information is a vital element of the organization's security policy, a legal requirement. From the study it was concluded that the common security threats are human errors: where an HRIS is not well designed, developed and maintained. Where employees are also not adequately trained, there is a high potential threat of security breaches. In addition, the study concluded that HRIS information security has a significant influence on organizational performance in commercial state corporations in Kenya. The study regression analysis results were used to test the hypothesis that HRIS Information security has no significantly influence organizational performance of Commercial State Corporations in Kenya. The p-value of the coefficient estimate was found to be less than 0.05 thus the null hypothesis was rejected and a conclusion drawn that HRIS information security has a significantly influence on organizational performance of Commercial State Corporations in Kenya. When private information about the workforce, business partners, or customers could fall into the hands of competitors; such a breach of security may lead to business losses, law suits, bankruptcy or winding up of the company.

Finally, the study also sought to assess the moderating effect of top management commitment on the relationship between human resource information system and organizational performance of Commercial State Corporations in Kenya. The moderated multiple regression analysis results were used to draw conclusions to this objective. There was a significant change in R-square due to the addition of the interaction terms between to management commitment and human resource information system dimensions. The significant change in R-square with a p-value less than 0.05 led to rejection of the null hypothesis and a conclusion that top management commitment has a moderating effect on the relationship between human resource information system and organizational performance in commercial state corporations in Kenya.

Particularly top management commitment was concluded to moderate the relationship between HRIS system quality and organizational performance and between HRIS Information Quality and organizational performance.

5.4 Recommendations on Research Findings

5.4.1 ICT Capability and Organizational Performance of Commercial State Corporations

According to the study, management should reinforce and implement human-centered information management practices at work in order to enhance how effectively employees use and exchange information. Top managers should commit funds to purchase HRIS infrastructure, which eventually improves the quality of customer service by empowering employees. Investing in ICT education and training on system usage, how to plan for and manage ICT investments, and other related topics also improves and revitalizes effectiveness and efficiency. Research and development on ICT services gives the business insights and suggestions on potential and upcoming ICT projects and investments that are intended to help the business stand out from the competition and acquire a competitive edge. Through Kenya Innovation Agency (KENIA), a division of the Ministry of Education that oversees the nation's innovation systems, including digital innovation, which is one of the main forces behind a digitally enabled economy, top or strategic managers should encourage and support connections and partnerships between business and academia.

5.4.2 HRIS Information Security and Organizational Performance of Commercial State Corporations

Every firm needs an information security policy, which shouldn't just be a blueprint capturing its motivation, goals, applicability, and relevance, among other things. Additionally, organizations should keep a record of who is in charge of implementing the security agenda across the board and let all employees know about it. Information security policies, organizational internet usage policies, software management policies, and security expectations that are in line with the tasks of the functions should all be explained to and covered in training for employees.

Monitoring the adoption of policies and procedures through employee attestation is essential because it offers valuable feedback on the methods for enforcing and educating about the policy document. A specific role policy, such as one on enterprise software management, should be scoped and scanned taking into account appurtenant personnel including those from the IT Systems department, in addition to being disseminated, reviewed, and acknowledged by all employees. The HRIS system should be regularly updated and upgraded to newer technology, according to management. They should also set up a committee to create and carry out policies for managing information security. Additionally, it should support and encourage organizational level system surveillance as well as risk assessment measures. The data protection act of 2019 and the national cyber-security policy, which offer strategic interventions for tackling national cyber-security concerns and threats, should be enforced and strengthened by the government. On the other hand, the government should promote information security and hold ongoing efforts to raise awareness of its significance.

The organizational internet usage policy should also be communicated, read, and acknowledged by all employees, while a specific role policy, for instance, a policy on enterprise software management, ought to be scoped and scanned taking into account appurtenant staff including those from the IT Systems department. Management should ensure that the HRIS system is continuously updated and upgraded to newer technologies. In addition, they should constitute a committee that develops and executes guidelines on the management of information security. Moreover, IT should uphold and hearten risk assessment measures as well as system surveillance at the organizational level. The government should enforce and strengthen the execution of the data protection act of 2019 and the national cyber-security strategy 2022 which provide strategic interventions for addressing national cyber-security challenges and threats. On the other hand, the government should encourage as well as run regular campaigns to sensitize/ create awareness of the importance and need for information security.

5.4.3 HRIS System Quality and Organizational Performance of Commercial State Corporations

The results recommend that the human resource information systems in organizations should be well fashioned to capture their business as well as organizational needs. Further, espousal of system/software metrics initiates quality programs that improve customer satisfaction and reduce programming errors which are reified through healthier programming besides the testing practices. The study further recommends the sustenance of quality systems as they are undoubtedly allied to satisfaction of the decision-making process. An upturn in the quality of the system means proliferation of decision-making process. The top management should invest in HRIS infrastructure that is functional, compatible with other information systems, and can be utilized easily by employees with their current skills. In addition, the management should formulate and ensure that the execution of a software programming and networking policy is realized. The government should also facilitate the provision of off-the-shelf quality systems (vanilla systems) that meet CSCs business as well as organizational needs relative to information processing to revivify efficiency in their processes.

5.4.4 HRIS Information Quality and Organizational Performance of Commercial State Corporations

The study recommends that commercial state corporations and other business establishments should identify operational, relational (real and achievable), and transformational goals; exercise due diligence in needs analysis to pinpoint information obligatory in the realization of definite goals or objectives.; focus on business needs rather than technology in driving business process reengineering, actively manage business expectations and realities, and assuage inhibitors during the adoption and execution period. The management of CSCs should attract the right employees with essential skills, attitudes, and proficiencies to identify appropriate content error-free before it is inputted into the system to produce timely, complete, and accurate information.

The government should also articulate and enforce effective recruitment, selection, and placement policies for CSCs to permit a competent, ICT literate and skilled workforce to be put in place.

5.4.5 Top Management Commitment and Organizational Performance of Commercial State Corporations

The study also recommends the reception by top managers in embracing HRIS enables them to identify business opportunities for the exploitation of ICT at the workplace by providing suitable strategic vision, policy development, and resource allocation for the espousal and portrayal of innovations through technologies. In addition, discernible top management support agrees on the importance of innovation and creativity in helping to overcome organizational resistance to HRIS.

5.5 Contribution to Theories and Body of Knowledge

In addition to accepting the role of top management commitment as a moderating variable on the relationship between HRIS and Organizational performance of Commercial State Corporations in Kenya, the study empirically developed a model linking HRIS and Organizational performance of Commercial State Corporations in Kenya. The study also expands on the utility, value, and usefulness of the Adaptive Structuration Theory, Dynamic Capabilities Theory, Contingency Theory, Systems Theory, Diffusion for Innovation Theory, and Technological Acceptance Model in describing the link between HRIS and organizational performance of commercial state corporations in Kenya. Similar theories can also serve as a direction for future research in this area when creating new study variables.

5.6 Areas for Further Research

The gaps that the research study was unable to fill serve as the foundation for future research areas. The study focused on ICT capability, HRIS system quality, HRIS information quality, HRIS information security, and top management commitment (moderator) as some of the factors influencing the organizational performance of Commercial State Corporations in Kenya.

The study was based on a cross-sectional study or analysis. Future research on Kenya's Commercial State Corporations can make use of different constructs for information systems adopted in the management of human resources. In order to support theoretical or speculative viewpoints and determine the degree to which the results may be applied to other state corporations, it can be useful to conduct a longitudinal survey of these aspects. To get a more varied perspective on the same; a future research study can think about include additional human resource practitioners in firms as respondents. Finally, because control variables were not included in the conceptual framework of this research study (which must always be reserved for an impartial test), other studies may now introduce control variables, such as the size and age (i.e., the duration of existence) of the commercial state corporations.

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APPENDICES

Appendix I: Letter of Introduction

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

Dear Sir/Madam,

REF: INFLUENCE OF HUMAN RESOURCE INFORMATION SYSTEMS ON ORGANIZATIONAL PERFORMANCE OF COMMERCIAL STATE CORPORATIONS IN KENYA

I am a student at Jomo Kenyatta University of Agriculture and Technology currently pursuing Doctor of Philosophy in Human Resource Management, as a partial fulfillment of the requirement for the award of a doctorate degree. I am required to carry out a research study on the influence of human resource information systems on organizational performance in commercial state corporations in Kenya. This is therefore to request you kindly to fill the questionnaires so as to enable me complete the study. The information shall be purely used for academic purposes and shall be treated with confidentiality.

Thanking you for taking time to fill the questionnaire.

Yours faithfully,

ANN GACERI KAARIA

HD412-C004-0211/2012

Appendix II: Questionnaire

General information

This questionnaire seeks to collect information with a view to establish the influence of Human Resource Information Systems on Performance in Commercial State Corporations in Kenya. It has seven sections (A-G) covering background information, ICT capability, Top Management Commitment, HRIS System Quality, HRIS Information Quality and HRIS Information Security. In all these sections, there are spaces provided for ticking, marking or writing your right objective answer as appropriate. The information will be used for academic purposes only.

Please do not write your name anywhere on the questionnaire.

Section A

Kindly tick (√) the appropriate response in the box provided

1. Name of the Commercial State Corporation.

……

2. Position in the organization (tick where appropriate)

Chief Executive Officer ☐ Human Resource Manager ☐

Deputy Human Resource Manager ☐

3. Gender: Male ☐ Female ☐

4. What is your age?

31-45 years ☐ 46-50 years ☐

50-60 years ☐ Above 60 years ☐

5. Your highest level of education

College level and below ☐

Undergraduate ☐

Masters Level ☐

Phd Level ☐

5 Number of years served in this Commercial state corporation.

1-3 years ☐ 3-6 years ☐ 7-10 years ☐ above 10 years ☐

Section B: ICT Capability

6 In a scale of 1-5 where 1 is strongly disagree, 2 is disagree, 3 is neutral, 4 is agree and 5 is strongly agree, indicate your level of agreement or disagreement with the following statements regarding ICT capability in this organization. Kindly tick or mark once in the spaces provided in the Table for each statement.

Statement	**1**	**2**	**3**	**4**	**5**
a) The organization has basic IT infrastructure in place					
b) There is a budget for IT needs in the organization					
c) The organization have adequate skills and competences in IT among its human resources					
d) Software and hardware are standardized to suit organization needs					
e) There adequate training on system use to employees and managers					
f) IT strategy of this organization is linked to its five-year strategic plan					
g) The IT system is synchronized to manage administrative costs					
h) There is emphasis on human centered information management to improve the ways in which people use and share information					

7 How would you describe ICT capability in this organization?

……

……

8 How has ICT capability or lack of it influenced implementation of human resources information system in this organization?

……

……

Section C: Top Management Commitment

9 In a scale of 1-5 where 1 is strongly disagree, 2 is disagree, 3 is neutral, 4 is agree and 5 is strongly agree, indicate your level of agreement or disagreement with the following statements regarding top management commitment on implementation of human resource information system in this organization.

10 Kindly tick or mark once in the spaces provided in the Table for each statement.

Statement	**1**	**2**	**3**	**4**	**5**
a) There is adequate budgetary allocation for implementation of human resource information system					
b) Decision made by the management are clearly communicated to other stakeholders in the organization					
c) The management has a proactive and continuous policy development for seamless implementation of human resource information system					
d) Top management has an open but realistic attitude towards ICT and bases its decisions on well-grounded expert evaluations					
e) The management has defined the processes for implementation of human resources information system					
f) The management has established clear objectives and goals for execution of all processes					
g) The management is involved in the audit of processes to ensure seamless implementation of human resources information system					
h) The management takes actions based on constant reviews to guide the implementation					

11 How has the top management in this organization shown commitment to implementation of human resources information system?

……

……

12 How has the commitment or lack of it above impacted implementation of human resources information system?

……

……

Section D: HRIS System Quality

13 In a scale of 1-5 where 1 is strongly disagree, 2 is disagree, 3 is neutral, 4 is agree and 5 is strongly agree, indicate your level of agreement or disagreement with the following statements regarding human resource information system quality in this organization. Kindly tick or mark once in the spaces provided in the Table for each statement.

Statement	**1**	**2**	**3**	**4**	**5**
a) The human resource information system in this organization is easy to use					
b) The human resource information system allows for flexibility in performing different job tasks and functions due to its efficacious functionality					
c) The human resource information system in this organization is compatible with the other management information systems					
d) There is adequate safety of information in the human resource information system of this organization					
e) Human resource information system is compatible with other system applications in this organization					
f) The human resource information system in this organization is stable					
g) Human resource information system has adequately met its intended purpose					
h) The human resource information system in this organization has improved customer satisfaction					

14 How would you describe the human resource information system quality in this organization?

……

……

15 In your opinion, what role has system quality played in the implementation of human resources information system in this organization?

……

……

Section E: HRIS Information Quality

16 In a scale of 1-5 where 1 is strongly disagree, 2 is disagree, 3 is neutral, 4 is agree and 5 is strongly agree, indicate your level of agreement or disagreement with the following statements regarding human resource information quality in this organization. Kindly tick or mark once in the spaces provided in the Table for each statement.

Statement	**1**	**2**	**3**	**4**	**5**
a) Information provided by the human resource information system in this organization is accurate					
b) Data in the human resource information system is relevant and complete to avoid inconsistencies					
c) Human resource information system has sufficient data					
d) Human resource information system provides timely data					
e) Human resource information system is updated regularly					
f) Information provided by the human resources information system covers adequate time period					
g) Data provided by the human resource information system in this organization is detailed and clear					
h) The human resource information system in this organization present data in a compatible and orderly form					

17 Do you think information quality has influenced implementation of human resources information system?

Yes () No ()

18 If yes (above) explain how.

……

19 If no (above) explain why?

……

Section F: HRIS Information Security

20 In a scale of 1-5 where 1 is strongly disagree, 2 is disagree, 3 is neutral, 4 is agree and 5 is strongly agree, indicate your level of agreement or disagreement with the following statements regarding human resource information security and privacy in this organization. Kindly tick or mark once in the spaces provided in the Table for each statement.

Statement	**1**	**2**	**3**	**4**	**5**
a) The HRIS is well designed, maintained and employees adequately trained to avoid security breaches due to human error					
b) There are measures to protect HRIS from security problems as a result of damage by employees which is made possible by effective risk assessment measures					
c) There are safeguards for misuse of computer systems as a result of unauthorized access to or use of information particularly when it is confidential and sensitive					
d) There are surveillance measures to guard against information theft from HRIS					
e) HRIS in this organization has safeguards against computer-based fraud					
f) Ways of dealing with security threats by viruses, worms and Trojans are in place					
g) There are security features to ward off hackers					
h) There are safeguards against spoofing and sniffing					

21 Are there measures in pace to mitigate loss and disruption of information in the human resource information system in case of natural disasters?

Yes () No ( )

22 If yes (above), list them.

Appendix III: Interview Guide for Directors and Deputy Directors of Human Resources

1) Does your organization have HRIS adoption and implementation policies?
2) Do you need some training on HRIS to perform your duties well? Suggest the type of training needed to overcome the challenges
3) What challenges do employees encounter in regard to adoption and implementation of HRIS?
4) What are the most important events / activates or anything that you consider as important contributing to overall de-motivation in relation to HRIS in your current position as far as you are concerned?
5) What would you say are the challenges employees face on work environment in reference to HRIS adoption and implementation in your organization?
6) What challenges do you encounter in regard to employees' job security?
7) Can you justify HRIS investment in regard to profitability of the organization, employee satisfaction and productivity?
8) How does the quality of the systems affect employee performance? Do you to invest in specific systems to enhance performance?
9) How often do you upgrade your systems?
10) On information quality, who ensure that the data keyed is accurate and how often is verification of the said data done?

Appendix 1V: Secondary Data Collection Template/ Sheet

YEAR	PROFITABILITY

Appendix V: Factor loadings matrix

	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5	Comp 6
ICT_Capability_1	0.468					
ICT_Capability_2	-0.022					
ICT_Capability_3	0.464					
ICT_Capability_4	0.400					
ICT_Capability_5	0.757					
ICT_Capability_6	0.610					
ICT_Capability_7	0.793					
ICT_Capability_8	0.661					
HRIS System_quality_1		0.417				
HRIS System_quality_2		0.610				
HRIS System_quality_3		0.663				
HRIS System_quality_4		0.809				
HRIS System_quality_5		0.216				
HRIS System_quality_6		0.741				
HRIS System_quality_7		0.536				
HRIS System_quality_8		0.573				
HRIS Information_quality_1			0.705			
HRIS Information_quality_2			0.642			
HRIS Information_quality_3			0.434			
HRIS Information_quality_4			0.655			
HRIS Information_quality_5			0.852			
HRIS Information_quality_6			0.623			
HRIS Information_quality_7			0.774			
HRIS Information_quality_8			0.719			
HRIS Information_security_and_privacy_1				0.906		
HRIS Information_security_and_privacy_2				0.792		
HRIS Information_security_and_privacy_3				0.757		
HRIS Information_security_and_privacy_4				0.703		
HRIS Information_security_and_privacy_5				0.844		
HRIS Information_security_and_privacy_6				0.665		
HRIS Information_security_and_privacy_7				0.822		
HRIS Information_security_and_privacy_8				0.819		
Top_management_commitment_1					0.747	
Top_management_commitment_2					0.817	

Top_management_commitment_3	0.54	
Top_management_commitment_4	0.554	
Top_management_commitment_5	0.675	
Top_management_commitment_6	0.376	
Top_management_commitment_7	0.797	
Top_management_commitment_8	0.311	
Organizational_performance_1		0.789
Organizational_performance_2		0.775
Organizational_performance_3		0.681
Organizational_performance_4		0.631
Organizational_performance_5		0.137
Organizational_performance_6		0.728
Organizational_performance_7		0.703
Organizational_performance_8		0.634
Organizational_performance_9		0.683

Appendix VI: 10 Commercial State Corporations with the largest net profits in FY 19/20

No.	State Corporation	In Ksh. Million	% of total net profits	Sector
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Source: Kenya State Corporations Review: Corporate Governance and Fiscal Risks of State Corporations report of 2021

Appendix VII: Commercial State Corporations

1. Agro-Chemical and Food company Agriculture, Livestock & Fisheries
2. Kenya Meat Commission Agriculture, Livestock & Fisheries
3. Muhoroni Sugar Company Ltd Agriculture, Livestock & Fisheries
4. Nyayo Tea Zones development Corporation Agriculture, Livestock & Fisheries
5. South Nyanza Sugar Company Limited Agriculture, Livestock & Fisheries
6. Chemilil Sugar Company Ltd Agriculture, Livestock & Fisheries
7. Nzoia Sugar Company Ltd Agriculture, Livestock & Fisheries
8. Simlaw Seeds Kenya Agriculture, Livestock & Fisheries
9. Simlaw Seeds Tanzania Agriculture, Livestock & Fisheries
10. Simlaw Seeds Uganda Agriculture, Livestock & Fisheries
11. Kenya National Trading Trading (KNTC) East African Affairs, Commerce & Tourism
12. Kenya Safari Lodges and Hotels Ltd East African Affairs, Commerce & Tourism
13. Golf Hotel Kakamega East African Affairs, Commerce & Tourism
14. Kabarnet Hotel Limited East African Affairs, Commerce & Tourism
15. Mt Elgon Lodge East African Affairs, Commerce & Tourism
16. Sunset Hotel Kisumu East African Affairs, Commerce & Tourism
17. Jomo Kenyatta Foundation Education, Science & Technology
18. Jomo Kenyatta University Enterprises Ltd Education, Science & Technology
19. Kenya Literature Bureau (KLB) Education, Science & Technology
20. Rivatex (East Africa) Ltd Education, Science & Technology
21. School Equipment Production Unit Education, Science & Technology
22. University of Nairobi Enterprises Ltd Education, Science & Technology
23. University of Nairobi Press (UONP) Education, Science & Technology
24. Development Bank of Kenya Ltd, Industrialization & Enterprise Development
25. Kenya Wine Agencies Ltd (KWAL), Industrialization & Enterprise Development
26. KWA Holdings, Industrialization & Enterprise Development
27. New Kenya Co-operative Creameries, Industrialization & Enterprise Development

28. Yatta Vineyards Ltd, Industrialization & Enterprise Development
29. Research Development Unit Company Ltd Lands, Housing & Urban Development
30. Consolidated Bank of Kenya, National Treasury
31. Kenya National Assurance Co. (2001) Ltd, National Treasury
32. Kenya Reinsurance Corporation Ltd, National Treasury
33. Kenya National Shipping Line, Transport & Infrastructure
34. Kenya Animal Genetics Resource Centre Agriculture, Livestock & Fisheries
35. Kenya Seed Company (KSC) Agriculture, Livestock & Fisheries
36. Kenya Veterinary Vaccine Production Institute Agriculture, Livestock & Fisheries
37. National Cereals & Produce Board (NCPB) Agriculture, Livestock & Fisheries
38. Kenyatta International Convention Centre East African Affairs, Commerce & Tourism
39. Geothermal Development Company (GDC) Energy & Petroleum
40. Kenya Electricity Generating Company (KENGEN), Energy & Petroleum
41. Kenya Electricity Transmission Company (KETRACO), Energy & Petroleum
42. Kenya Pipeline Company (KPC), Energy & Petroleum
43. Kenya Power and Lighting Company (KPLC), Energy & Petroleum
44. National Oil Corporation of Kenya, Energy & Petroleum
45. National Water Conservation and Pipeline Corporation Environment, Water & Natural Resources
46. Numerical Machining Complex Industrialization & Enterprise Development
47. Kenya Broadcasting Corporation Information, Communication & Technology
48. Postal Corporation of Kenya Information, Communication & Technology
49. Kenya EXIM Bank, National Treasury
50. Kenya Post Office Savings Bank, National Treasury
51. Kenya Airports Authority (KAA), Transport & Infrastructure
52. Kenya Ports Authority (KPA), Transport & Infrastructure
53. Kenya Railways Corporation (KRC), Transport & Infrastructure
54. Kenya meat commission
55. Mt Elgon Logue

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for the period ending:
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Signature

.....
Director General
National Commission for Science,
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