



**LEVERAGING COMPUTERIZED INFORMATION
SYSTEMS FOR ENHANCED FIRM PERFORMANCE:
EMPIRICAL EVIDENCE FROM SMALL AND MEDIUM
ENTERPRISES IN MOMBASA COUNTY, KENYA**

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Abstract

Small and medium enterprises contribute substantially to social economic development at the local, national and global levels. Nevertheless, there is strong evidence that these enterprises experience a myriads challenges with adverse implications to their return on asset, return on equity, net profit and overall efficiency. An extensive body of literature has presented computerized information system as an imperative for fostering operational effectiveness and performance of business enterprises. Therefore, objective of the study was to determine the effect of computerized information system on the performance of small and medium enterprises in Mombasa County. This study was anchored on contingency theory and diffusion of innovation theory and used descriptive research design. The population of the study was 5,482 licensed small and medium enterprises in Mombasa County while the unit of analysis for the study was individual organizations with the targeted respondents being the owner or their equivalents. Statistical analysis indicated a positive linear relationship between computerized information system and firm performance. The study concluded by emphasizing on the adoption of



computerized system by small and medium enterprises and the system importance in bringing about productivity, cost reduction and scope for innovation through new business models. The study recommends for small and medium enterprises to normalise the application of computerized system rather than using the traditional methods and suggesting that small and medium enterprises using computerised system performs better than the ones not using the system.

Keywords: Computerized information system, accounting information system, human resource management system, e-commerce adoption, cloud computing services and firm performance

INTRODUCTION

Small and Medium Enterprises (SMEs) perform a critical role in shaping the World's economy and this is well documented (Ndiaye, 2018). SMEs continue to contribute significantly to employment and the Gross Domestic Product of most developing countries (Singh, et al., 2019). The extraordinary role of Information Communication Technology (ICT) in the modern business settings, let alone SMEs, cannot be overemphasized. Access to processed information has been considered as a means of achieving sustainable competitive advantage. It is notable to point out that SMEs have perceived the adoption of ICT both with a mixed basket of attitude of scepticism and optimism. However, there are still many businesses which are sceptical of using computerized system, for a variety of reasons, including pre-usage beliefs, the necessity for technical expertise, and the high initial setup expenses (Rahma, 2020).

By continually improving their performance, organizations must be able to compete rather than just exist in this globalization period. Computerized solutions give management teams a platform to use in this regard so they can develop and be more efficient in their decision-making in order to maximize both individual and organizational performance. As a result, the business should place a high priority on achieving and maintaining computerized system efficacy. If an organization lacks the proper information system, data challenges related to accuracy and reliability can cause workflow to be severely hindered (Mkonya, Jintian, Nanthuru, & Jinyevu, 2018). This makes it necessary to look into how computerized system affects SMEs' performance.

Computerized system is crucial in the setting of SMEs because they promote monitoring and control by giving information to support decisions in crucial areas like costing, spending, and cash flows (Lutfi, 2022). Research by the centre for development and research on the role of ICTs in the economic performance of SMEs in east Africa has revealed that companies that have been able to use ICT efficiently can give small firms a competitive advantage. ICT use can

benefit SMEs in a number of ways, including by giving them access to useful information, increasing their knowledge, enhancing their performance, improving their e-relationships with customers and suppliers, and lowering their production costs. Unlike SMEs, big businesses have used ICT to their advantage in order to gain a competitive edge.

Despite the fact that computerized system is crucial for SMEs' existence, many researchers found that the majority of businesses do not have them. Additionally, the effectiveness of SMEs employing computerized system continues to be inconclusive; the output levels anticipated from ICT investment in such SMEs are not necessarily correlated with better products and services, larger markets, and lower costs, which is cause for concern. However, the adoption of computerized system significantly benefited SMEs and, as a result, the Kenyan economy. This study is thus pertinent and assessed how using computerized system affected the performance of SMEs in Mombasa County, which have continually struggled to perform.

Globally, SMEs are recognized as engines of economic growth, contributing significantly to employment, innovation, and Gross Domestic Product (GDP) (Ndiaye, 2018). In developed economies such as the United States, SMEs account for over 99% of all businesses, providing nearly half of the private-sector jobs (OECD, 2021). Similarly, in Europe, SMEs form the backbone of the economy, representing around 99.8% of non-financial business enterprises (European Commission, 2020). These statistics underscore the essential nature of SMEs not only for economic sustainability but also for fostering innovation and competition in the global marketplace.

Regionally, in Africa, the significance of SMEs remains profound. The African Union has recognized SMEs as critical drivers of economic diversification, poverty reduction, and job creation, especially in the face of increasing youth unemployment. SMEs contribute over 80% of jobs and approximately 50% of GDP in Sub-Saharan Africa (UNCTAD, 2021). In East Africa specifically, the adoption of Information Communication Technology (ICT) by SMEs has been gaining momentum, albeit at a slower pace than in developed economies. ICT adoption has the potential to bridge the productivity gap between SMEs and larger enterprises, thereby improving efficiency, competitiveness, and access to regional and international markets (Lutfi, 2022). However, the level of ICT adoption in the region varies significantly, with some SMEs rapidly embracing technology while others remain hesitant due to factors like high costs, lack of technical expertise, and infrastructure challenges (Rahma, 2020).

At the national level, SMEs in Kenya contribute over 40% of the country's GDP and employ more than 80% of the total workforce (Kenya National Bureau of Statistics, 2020; Ocharo & Kinyua, 2021). Yet, despite this significant contribution, Kenyan SMEs face numerous challenges, including limited access to capital, inadequate infrastructure, and a lack of ICT

adoption. Mombasa County, a key economic hub in Kenya, reflects this national trend. SMEs in this region continue to struggle with performance despite the availability of computerized system designed to improve decision-making, planning, and overall management efficiency (Mkonya, Jintian, Nanthuru, & Jinyevu, 2018). While computerized system is increasingly recognized as vital for enhancing SME performance through better monitoring and control of key business functions, such as accounting, cash flow management, and customer relationships, their implementation remains uneven across the region.

The increasing competition in digitization of services and globalization is a challenge that most institutions do not understand how to handle. The revolution of Information Communication Technology (ICT), which dates back in 1950s has played a great role in changing ways of operation from manual service delivery to integrated system that are enhanced for service delivery (Sam, Hoshino, and Tahir 2012). From the available literature, the main computerized system adopted by organizations have been pointed out to be accounting information system, human resource management system, e-commerce, and cloud computing.

Computerized accounting system (CAS) were created because of technical advancement to meet the demands of financial organizations that needed to record, store, analyze, calculate, and control financial information. According to Singh and Sethi (2014), CAS is an information system that generates, stores, manipulates, and keeps track of the financial transactions involving employees and the organization's sales, profits, investments, loans, wages or salaries, bonuses, or deductions during a given period. In most organizations, including banks, the manufacturing sector, wholesale units, and now Savings and Credit Cooperation's (SCC), the adoption and implementation of a Computerized Accounting System (CAS) has dramatically increased in demand (Nyang'au, Okibo, & Nyanga'u, 2015).

Human Resource Management System (HRMS), which are developing at a dizzying pace, are another component of computerized system. Modern human resource management system have evolved from the straightforward process of transitioning manual data storage systems to computerized system. Using advanced HRMS software in the form of stand-alone solutions and ERP system, HR departments may administer data in areas ranging from benefits to regulatory compliance effectively and efficiently. Quantifying the return on investment and specific productivity increases in HR departments is more difficult, even though administrative HRMS can be measured, such as cost reductions in HR departments.

Cloud computing refers to the provision of IT-related services including platform as a service, application as a service, hardware as a service, and software as a service. With the use of these services, many businesses can access their work, data, and software via streamlined input and output devices over the internet. Cloud computing also offers a complete data backup,

the concern of losing data and loading a large company's data is no longer an issue (Rahmath & Sarwar, 2014). Thus, cloud-based applications for work or email are being utilized more frequently in day-to-day corporate operations.

E-commerce was described by Manideep and Reddy (2019) as the exchange of products and services over computer networks. The use of ICTs to improve a firm's internal operations, including human resource, communication, logistics, contract management, procurement, and data management tasks, is a key component of e-commerce, according to Yang, Humphreys, Mclvor, and Cadden (2017). Enhancing the flow of goods and services from the manufacturer or service provider to the final consumer is another benefit of e-commerce (for instance ordering, payment, marketing, delivery among others). E-commerce is helpful in improving productivity and customer service, according to Mahliza (2019). E-commerce has several different components, such as e-marketing, e-ordering, e-payment, e-CRM, and e-custom clearance.

Performance of SMEs can be measured in various ways, including financial and non-financial measures. Some common financial measures include revenue growth, profitability, return on investment (ROI), and cash flow. Non-financial measures may include customer satisfaction, employee engagement, innovation, and social and environmental impact. Measuring performance is crucial for identifying areas of improvement and making informed decisions. (Sartipi, 2020). Theoretically, the use of computerized system and the performance of SMEs tend to be closely related. The increased deployment of these technologies has been linked to improving business success via market expansion. A computerized system allows a business to purchase and sell its goods outside of its local area, expanding the market for those goods and performance (Riany, Were & Kihara, 2019; Mire, 2019). Its adoption also boosts business efficiency, which boosts firm performance.

Small and medium-sized enterprises (SMEs) are businesses that fall within a certain range of size criteria, which may vary depending on the country and industry. They are defined as businesses with fewer than 250 employees, and with an annual turnover of less than a certain amount (Rose, Kumar, & Yen, 2013). Only 7% of SMEs in Kenya are small, and 1% are larger; the majority (92%) are micro-sized businesses (KNBS, 2019). There are more than 6 million unlicensed SMEs in Kenya and about 1.5 million SMEs licensed. The industries make significant contributions to the economy, employing about 30% of the labor force and making up roughly 70% of all businesses and providing more than 80% of all new jobs created annually (KNBS, 2020).

In Mombasa County, many SMEs are in operation, providing a wide array of goods and services to the county's varied market (Osano, 2019). SMEs in the area are known for their

operational flexibility, localized operations, temporary labor task groups, and use of locally produced raw materials. Most of the workers in these labor-intensive enterprises have a low or moderate level of education (Achiando, 2018). Furthermore, because their managers or owners are so profit-driven, SMEs are largely run for profit, which produces extremely high pricing margins.

Statement of the Problem

Computerized system is a crucial resource for today's SMEs as they help with better decision-making, planning, and controlling tasks (Mahliza, 2019). To maintain and expand their businesses, SMEs must effectively handle not only their accounting and finances, but also the rest of the operations. Improvements in efficiency and cost-cutting initiatives are the key factors driving the use and development of information system in SMEs. However, the presence of barriers, such as those related to cost, management, security, and technology, may obstruct adoption (Dewi, et al., 2018). The fact that three out of every five SMEs in Kenya close within the first year of operation, posing a threat to their expansion, demonstrates the difficulties facing their survival (KNBS, 2021). SMEs often contend with inability to access adequate capital and information, regulatory constraints, low managerial capability, low operating efficiencies, and competition from established global firms operating in Kenya (KNBS 2022; Murungi & Kinyua, 2024).

Low adoption rates of computerized system among most SMEs in Mombasa County, makes it difficult for owners to monitor the operation of their businesses on a timely basis, which weakens controls and prevents efficient planning (Ali et al., 2018). Due to a lack of automated strategies, the majority of SMEs in the County fail after the first family generation (Toroitich, et al., 2017). Additionally, because the majority of these SMEs are owner-managed, it is possible that they lack the necessary knowledge of accounting and financial management, which makes them less motivated to develop robust accounting information system. Despite the hypothesized benefits, most of enterprises in Mombasa County still do not adopt computerized system and prefer to use manual system without detriment to quality (Mbogo, 2014; Hammour, 2017; Sartipi, 2020).

Empirically, the studies conducted have not been conclusive on computerized system and organizational performance. Munene, (2017) concluded that there was improved organizational performance brought about by AIS especially in accuracy of data processing, timely reporting and overall improvement in efficiency of the organization due to computerized system. Comparably, Muthee, (2021) established that the influence of e-payment on performance of import-oriented SMEs is positive but not statistically significant. In a study in

Saudi Arabia, Alzahrani (2018) revealed that the adoption of e-commerce has a major impact on business strategy. Farida, Naryoso and Yuniawan (2017) also established that the effect of e-commerce on marketing performance was direct. Kusuma and Marhaeni (2019) also revealed that firms that have adopted e-commerce demanded more products compared to those who have not yet adopted e-commerce. However, Achiando (2019) found that the effect of internet marketing and e-CRM on firm performance was not significant.

Given that SMEs are critical contributors to economic growth, particularly in Mombasa County, there is a need to explore the extent to which computerized information system are effectively supporting these businesses in enhancing performance. While SMEs in this region have adopted various ICT tools, it remains unclear whether these tools are being utilized optimally to achieve competitive advantages and drive performance. The lack of comprehensive studies addressing the unique challenges faced by SMEs in adopting and integrating computerized system further exacerbates this research gap. Therefore, this study seeks to address the question; what is the effect of computerized information system on the performance of SMEs in Mombasa County?

Research Objectives

- i) To assess the effect of accounting information system on the performance of SMEs in Mombasa County.
- ii) To determine the effect of human resource management system on the performance of SMEs in Mombasa County.
- iii) To establish the effect of e-commerce adoption on the performance of SMEs in Mombasa County.
- iv) To determine the effect of cloud computing on the performance of SMEs in Mombasa County.

THEORETICAL REVIEW

The research constructs adopted in this study and their postulated relationship are underpinned by the contingency theory and diffusion of innovation theory as discussed in this section.

Contingency Theory

Fielder (1960) introduced the concept of contingency theory. The theory holds that there is no one optimum way to run, manage, or make decisions in a business; rather, the best course of action depends on the internal and/or external conditions that the organization is facing at the

time. In order to do this, organizations must identify crucial context-specific contingency variables, group similar contexts based on these contingency variables, and then determine the most effective internal organizational designs and responses in each major group (Zeithaml, Varadarajan & Zeithaml, 2019). According to Raduan et al. (2019), the contingency theory presupposes that there is not a single ideal strategy for managing organizations because it depends on a variety of organizational traits. Based on this, firms should not be managed in a uniform manner but rather should create customized management strategies based on the unique context or circumstance in which they find themselves (Exposito, & Sanchis-Llopis, 2018).

This theory asserts that there are firm-specific characteristics that influence the type of their business ventures including computerized system adoption. These elements had a significant impact on which computerized system features are implemented, the extent to which they are implemented, and the end consequence of the system. As a result, among SMEs, one factors affecting computerized system adoption in one firm would not necessarily affect another hence vary depending on the circumstances. Furthermore, among successful firms, environmental unpredictability is a key motivator in the development of management accounting system. By applying Contingency Theory, the study aims to understand how these variables interact and affect the overall performance of SMEs, suggesting that a one-size-fits-all approach to computerized system may not yield optimal results for every enterprise.

Diffusion of Innovation Theory

The Diffusion of Innovation (DOI) Theory was proposed by Rogers (1962). The theory describes how new technological and other innovations travel through communities and cultures from first introduction to widespread adoption. This theory states that whether or not to pursue new ideas depends on five factors related to the invention's attributes. The variables to take into account are perceived value, balancing criteria, sophistication, testability, and exposure to the technology-adopting social structure (Putteeraj, et al., 2022). The goal of the innovation theory, which has timelines that may be stretched over long periods of time, is to explain how and why new ideas and approaches are put into practice (Dearing, 2015). Furthermore, it is important to recognize that the speed of dispersion or dissemination depends on how technology is introduced to various societal sectors and on people's subjective perceptions of those technologies. When attempting to increase market share, it is crucial to understand this.

According to this theory, three mechanisms that promote quicker technology adoption are trialability, complexity, and observability (Sasaki, 2018). Trialability is the extent to which a concept gets tested and experimented as a result of being included. Complexity is the degree to

which a technology's usability affects its adoption. This implied that users persisted with a complex technology even if it requires a lot of learning. On the other hand, observability is concerned with how obvious technology use and effects are to other people (Sartipi, 2020). These factors determine the extent to which an individual or a firm examined compatibility with the technology and move towards adopting it to satisfy its needs (Rogers, 1983). In relation to the study, the theory can help in explaining the development of computerized system technology, the rationale of adoption, how and where the technology has been adopted, and the potential benefits of adoption both to SMEs and the customers. This theory is thus important to the study as it shows how computerized system is adopted and spread in the SME sector. By analyzing the diffusion process of CIS, the study seeks to identify the key determinants that encourage or hinder the adoption of these system among SMEs. This understanding can help policymakers and business practitioners design strategies that enhance the acceptance and effective utilization of computerized system, ultimately leading to improved performance in the sector.

EMPIRICAL REVIEW

In Kenyan state-owned businesses, Makuku (2020) looked into the elements that affect the adoption of accounting information system. The research employed the technology acceptance model, the diffusion of innovations theory, and the unified theory of technology acceptance and utilization. The results showed that staff competence ($= 0.438$, $p = 0.05$) and top management support ($= 0.318$, $p = 0.012$) had a significant positive impact on AIS adoption in Kenyan state firms. However, the adoption of AIS in Kenyan state firms was unaffected by reported ease of use ($= -0.032$, $p = 0.801$) and perceived usefulness ($= 0.093$, $p = 0.124$).

In the Iringa municipality of Tanzania, Quamunga (2018) investigated the variables influencing the adoption of a computerized account information system (CAIS). A questionnaire that was distributed to a randomly selected group of 100 participants and fully returned was used to collect the data. The study's conclusions showed that user perception, installation costs, and information technology infrastructure all have an impact on whether computerized accounting system are adopted. The paper recommends that the government improve legal infrastructure, such as privacy laws, e-signature legislation, and other cybercrime laws, in order to reduce criminality utilizing computerized accounting system.

Kanake and Onyiego (2016) looked into the strategies and financial issues surrounding the introduction of Human Resource Information System in Kenyan universities. The main objectives were to look into strategies for sustaining HRIS use in service delivery at Kenyan institutions and to identify the difficulties involved. It used a survey research design. The target

audience consisted of personnel from the finance, information and communications technology, and human resource departments. Through the use of questionnaires, the respondents' data was gathered. The new system was met with hostility by the workforce, who opposed the switch from manual to automated methods because of HRIS's shortcomings.

Ama Karikari, Boateng (2015) examined the Human Resource Information System and its importance in employees' behaviour. To learn more about the role, issues, and advantages of HRIS in the hospitality industry in the Greater Region (Ghana), this study conducted interviews with two HRIS managers. The system was found to have a significant impact on the analysis of tasks in every department and its job title within the company, the identification of open positions, the provision of additional details on training gaps and staff who needed upskilling, the making of speedy succession planning decisions, and the timely identification and training of key employees. The investigation came to the conclusion that HRIS was crucial to managing human resources.

Kusuma and Marhaeni (2019) sought to evaluate the influence of E-commerce and other factors on the performance of SMEs. The research revealed that firms that have adopted e-commerce demanded more products compared to those who have not yet adopted e-commerce. The study also noted that firms that have adopted e-commerce performed better than those that have not yet adopted e-commerce. In a study in Jakarta Region, Mahliza (2019) evaluated the causal link between social media marketing and business performance. The study established that social media marketing had a direct causal effect link with performance of micro enterprises.

A study on State Corporations in Kenya by Chepkwony (2017) evaluated the causal effect relationship between adoption of e-informing and E-ordering and supply chain performance. The results of the study revealed that e-informing and e-ordering had a direct and major effect on supply chain performance. Sakwa and Ngeno (2018) evaluated the relationship between supply chain performance and electronic procurement among sugar processing firms in Kenya. The research showed a major causal effect link between electronic ordering and performance of the supply chain.

Sabwa (2016) looked on SMEs in Kenya's embrace of cloud computing. According to the study, embracing computing enables users to access and utilize the most complex technology without having to shell out astronomical sums of money to buy the system or create it internally. The results also demonstrate how cloud computing has benefited SMES by reducing or eliminating the expenses associated with system upgrades and maintenance, as well as the costs associated with IT for SMEs (such as IT professionals) and installing or creating a technology internally. The results revealed the following regarding the difficulties faced by SMEs

while utilizing cloud computing or impeding its adoption: lack of confidence in the efficiency of cloud service consumption and control; difficulty estimating the expenses involved due to the on-demand nature of the services.

Sari and Kurniawan (2015) conducted a study on staff skill and implementation of cloud computing. Their findings showed that staff skills are important and essential properties to use cloud computing. Furthermore, if staff members are to be successful in using cloud computing, the most crucial cloud computing utilization depends on staff skills. IT staff skills are a major component of organizational success, and many experts concur that staff skill plays a critical role in influencing the adoption of innovative practices within firms.

RESEARCH METHODOLOGY

This study adopted an explanatory research design, which seeks to establish cause-and-effect relationships between variables (Kothari, 2014). This research design has been substantially used in research work in social sciences (Kinyua, 2015; Kinyua, Muathe & Kilika 2015; Odhiambo & Kinyua, 2022; Ojiambo & Kinyua, 2022; Motum & Kinyua, 2022; Murungi & Kinyua, 2024; Ndiwa, & Kinyua, 2024; Kela-Kahingo, Kinyua, & Muchemi, 2024). In this study, the focus was on understanding the effect of computerized information system on the performance of SMEs in Mombasa County. Regression analysis was employed to test the hypothesized relationships between the independent variables and the dependent variable. This design allowed for an in-depth investigation into the nature of these relationships, providing valuable insights into the impact of computerized system on SME performance.

The population of the study was all the SMEs operating in Mombasa County. Mombasa County was chosen because it is home to many formal and informal small and medium-sized businesses, the most significant economic activities in terms of employment, and the potential to grow a more vibrant SMEs value chain industry. According to the County Government of Mombasa, (2021) the Mombasa County has a total of 5,482 licensed SMEs and this is the population that was targeted. The unit of analysis for this study was individual organizations with the targeted respondents being the owner or their equivalents. To identify the study sample, Slovin's formula (1960) was used.

$$n = \frac{N}{1 + N(e^2)}$$

Where, n = number of samples, N = total population and e = error margin / margin of error at 5%
Therefore,

$$n = \frac{5482}{1 + 5482(0.05^2)}$$

$n = 5482 \div 1 + (13.705)$

$n = 5482 \div 14.705$

$n = 373$

This gives a total of 373 SMEs at 5% margin of error.

This study used stratified random sampling in selection of the respondents for the study. Stratified random sampling is whereby the population is grouped into categories (strata) after which a proportionate number of respondents is selected at random. The weight of the stratum was determined by comparing the number of respondents in each stratum to the total population. This sampling was more appropriate because the sample was derived from a heterogeneous community and was also used when there was a significant disparity in a group. Therefore, the sampling method guarantees that each study element was fairly represented.

The study used only primary data which was collected using questionnaires. Questionnaires were used because they were fast to administer, and respondents could fill them at their convenience. Questionnaires are also inexpensive, and they allow respondents to double-check the information requested before replying to the questions (Kothari, 2014). Both closed-ended and open-ended questions were included in the semi-structured surveys. Using a Likert scale, the respondents' responses were scored. The respondents were given enough time to fill out and return the questionnaires. The questionnaires were given out via a drop-and-pick method. Calls and emails were utilized in following up the respondents to get a high response rate.

This study used SPSS in data analysis. The surveys were first reviewed for completeness after data collection, than they were coded and sorted. Descriptive and inferential analysis was then used in data analyses. The measurements of central trends, such as means, frequency distribution, and standard deviations, were included in the descriptive statistics. Inferential analysis included regression and inferential analysis which were used in determination of the relationship between the study variables. Tables and figures were used to display the analysed data. The multiple regression model that was used took the following format:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon \dots \dots \dots \text{(Equation I)}$$

Where, α is model intercept, β_1 - β_4 are the various intercepts, Y is SME Performance, X_1 is Accounting Information System, X_2 is Human resource management system, X_3 is E-commerce, X_4 is Cloud Computing and ϵ is the error term.

The researcher obtained an introduction letter from the university before commencement of the study. The study participants were told the possible benefits of the study and that the study was entirely voluntary. Some of the respondents were hesitant to participate in the study because of worries about purpose, ethics, and privacy. They were reassured by the researcher that the study was only done for academic reasons. Additionally, throughout the course of the study, confidentiality and absolute privacy were maintained.

ANALYSIS, FINDINGS AND DISCUSSION

The observed data was analysed and the findings discussed with the object of providing insights to the objectives of the study.

Response Rate

Maxwell (2015) defines response rate as the ratio of surveys that were completed and returned to the total number of questionnaires issued. This study targeted 98 SMEs in Mombasa County. The response rate is presented in Table 1.

Table 1: Response Rate

Status	Frequency	Percentage
Responded	83	85%
Not Responded	15	15%
Total	98	100%

For this study, 98 questionnaires were supplied to the target respondents, out of which, 83 were returned and 15 were not returned. According to Mugenda and Mugenda (2003), a return rate of 50% is sufficient, one of 60% is acceptable, and a score of more than 70% is exceptional. Thus, a response rate of 85% was considered sufficient for analysis and achievement of the study objectives. Additionally, a high response rate reduces the potential for non-response bias, which occurs when the characteristics of respondents differ significantly from those who did not respond. This bias can skew results and lead to inaccurate conclusions.

Descriptive Statistics for Accounting Information System

Data observed on accounting information system was subjected to statistical analysis to generate appropriate insights concerning the mean and standard deviation as shown in Table 2.

Table 2: Accounting Information System

Questionnaire						Std.
items		n	Min	Max	Mean	Dev
Accounting information system provides real-time financial data for decision-making purposes.		83	1.00	5.00	3.205	1.102
Storage and retrieval of data is facilitated by the AIS.		82	1.00	5.00	3.110	1.089
AIS helps in analysing of financial information.		82	1.00	5.00	3.049	1.121
AIS is used to create Company Budgets.		81	1.00	5.00	3.070	1.039
Accounting Information System helps different departments work together.		83	1.00	5.00	2.880	1.204
Aggregate Score					3.063	1.111

The findings in Table 2 indicated that moderate number of respondents believed that accounting information system provides real-time financial data for decision-making purposes (mean = 3.2048; std =1.10165).

Most respondents were undecided on whether storage and retrieval of data is facilitated by the AIS (mean =3.1098; std =1.08873). Several informants believed that AIS helps in analysing of financial information (mean =3.0488; std =1.12109), and it is also used to create Company Budgets (mean =3.0864; std =1.03920). A small number of informants agreed with the statement that Accounting Information System helps different departments work together as indicated by the mean of 2.8795. According to the results in table 2 most respondents agree that accounting information system have an impact on the performance of SMEs in Mombasa County.

Descriptive Statistics for Human Resource Management System

Data observed on human resource management system system was subjected to statistical analysis to generate appropriate insights concerning the mean and standard deviation as shown in Table 3.

Table 2: Human Resource Management System

Questionnaire items	n	Min	Max	Mean	Std. Dev
Your firm uses a human resource management system to manage employee information, payroll, and benefits.	83	1.00	5.00	2.934	1.233
The human resource management system is integrated with other business functions like accounting or sales.	82	1.00	5.00	3.537	1.249
Your SME relies on manual processes for employee data management rather than using the human resource management system.	82	1.00	5.00	2.927	1.395
Human resource management system facilitates frequent employee training and development.	82	1.00	5.00	3.171	1.404
The human resource management system provides real-time employee data for decision-making purposes.	82	1.00	5.00	2.720	1.103
Aggregate	82	1	5	2.950	1.277

As shown in Table 3, few SME uses a human resource management system to manage employee information, payroll, and benefits with a mean of 2.9398 whereas, according to most respondents the human resource management system is integrated with other business functions like accounting or sales (mean, 3.5366). A small extent was stated by respondents regarding SME relying on manual processes for employee data management rather than using the human resource management system (mean, 2.9268) while most believed that human resource management system facilitates frequent employee training and development (mean, 3.1707). The human resource management system provides real-time employee data for decision-making purposes was agreed by a small number of respondents as indicated by the mean of 2.7195. Therefore, few respondents agreed that human resource management system influenced the performance of SMEs in Mombasa County.

The data suggests that while there is some level of utilization of human resource management system, there are areas that require improvement. Managers should therefore focus on enhancing the integration of human resource system with other business functions, reducing reliance on manual processes, and improving the real-time availability of employee

data to optimize human resource system utilization and ultimately enhance overall SME performance. Regular training and system updates may be necessary to achieve these objectives.

Descriptive Statistics for E-commerce Adoption

Data observed on e-commerce adoption was subjected to statistical analysis to generate appropriate insights concerning the mean and standard deviation as shown in Table 4.

Table 4: E-commerce Adoption

Questionnaire items	n	Min	Max	Mean	Std. Dev
Your SME heavily relies of e-ordering, e-marketing, and e-payments.	83	1.00	5.00	3.084	0.913
The e-commerce platform integrates with other business functions like inventory management or accounting.	82	1.00	5.00	2.829	1.087
E-commerce platform provides real-time sales data for decision-making purposes.	83	1.00	5.00	3.060	1.063
Your firm relies on traditional brick-and-mortar sales rather than e-commerce.	83	1.00	5.00	3.108	0.963
There is storage of sales data in the e-commerce platform.	83	1.00	5.00	2.964	1.120
Aggregate	82.8	1	5	3.009	1.029

According to the results presented in Table 4, most SME heavily relies of e-ordering, e-marketing, and e-payments as indicated by the mean of 3.0843. A small number of respondents believed that e-commerce platform integrates with other business functions like inventory management or accounting (mean, 2.8293) while most of the informants agreed that E-commerce platform provides real-time sales data for decision-making purposes (mean, 3.0602) and most of the SME relies on traditional brick-and-mortar sales rather than e-commerce (mean, 3.1084). Some informants agreed that there is storage of sales data in the e-commerce platform (mean, 2.9639). Several respondents believed that e-commerce adoption influenced the performance of SMEs in Mombasa County.

With means ranging from 2.829 to 3.108, it suggests moderate to high levels of adoption across different dimensions. Notably, the highest mean score is for relying on traditional brick-and-mortar sales rather than e-commerce, indicating a significant presence of traditional sales channels. Managers should recognize the importance of integrating e-commerce with other

business functions, leveraging real-time sales data for decision-making, and ensuring adequate storage of sales data with e-commerce platforms. This data highlights the need for SMEs to capitalize on e-commerce opportunities while also acknowledging the coexistence of traditional sales methods, thereby strategizing for a balanced approach to maximize overall performance and competitiveness in the market.

Descriptive Statistics for Cloud Computing Services

Data observed on computing cloud services was subjected to statistical analysis to generate appropriate insights concerning the mean and standard deviation as shown in Table 5.

Table 5: Cloud computing services

Questionnaire items	n	Min	Max	Mean	Std. Dev
Your SME uses cloud computing for storing and managing data	83	1.00	5.00	3.024	1.189
Your firm stores business data in the cloud and is easily accessible.	83	1.00	5.00	3.458	0.991
Cloud computing is used for collaboration and communication purposes.	83	1.00	5.00	3.434	0.965
Your firm relies on traditional on-premises servers rather than cloud computing.	82	1.00	5.00	3.232	1.034
Cloud computing system provides real-time data access and analysis for decision-making purposes.	81	1.00	5.00	2.914	1.175
Aggregate	82.4	1	5	3.212	1.071

Most SME uses cloud computing for storing and managing data as the respondent were in agreement to a moderate extent as indicated by a mean of 3.0241, as well as storing of business data in the cloud and is easily accessible (mean, 3.4578). Most respondents agreed that cloud computing is used for collaboration and communication purposes (mean, 3.4337) and most SME relies on traditional on-premises servers rather than cloud computing as shown by the mean of 3.2317. A small number of informants believed that cloud computing system provides real-time data access and analysis for decision-making purposes (mean, 2.9136). Generally, most respondents agreed with the statement of cloud computing in Mombasa County.

The mean score for different aspects of cloud computing ranges from 2.914 to 3.458, indicating a moderate level of adoption and satisfaction with cloud computing services. However, there are fluctuations in responses, suggesting differing perceptions and practices among SMEs. Managers should prioritize enhancing the integration of cloud computing technologies, particularly in areas where scores are lower, to leverage the full potential of these services for data management, collaboration, communication, and real-time decision-making. Additionally, efforts should be made to address any reluctance towards migrating from traditional on-premises servers to cloud-based solutions, as cloud computing offers numerous advantages in terms of scalability, accessibility, and efficiency. Regular training programs and awareness campaigns may facilitate smoother transitions and maximize the benefits derived from cloud computing adoption.

Descriptive Statistics for Firm Performance

Data observed on firm performance was subjected to statistical analysis to generate appropriate insights concerning the mean and standard deviation as shown in Table 6.

Table 6: Firm Performance

Descriptive Statistics	n	Min	Max	Mean	Std. Dev
Computerized information system has fostered management of financial data	83	1.00	5.00	2.783	1.169
The firm has favourable return on assets	83	1.00	5.00	3.217	1.266
Computerized information system has enhanced the firm's return on equity	83	1.00	5.00	3.325	1.389
There is growth in the firm's net profitability.	83	1.00	5.00	2.699	1.112
Computerized information system has increased the firm's operational efficiency	82	1.00	5.00	2.951	1.304
The growth in market share is favourable	83	1.00	5.00	3.157	0.917
Aggregate	82.8	1	5	2.851	1.193

As shown, the respondents stated that computerized information system has fostered management of financial data to a small extent as implied by the mean of 2.7831 and standard deviation of 2.3012 respectively. However, there was a moderate level of agreement that the firm's return on assets has been favorable as manifested by the mean of 3.217 and standard deviation of 1.266. Further, there was moderate agreement that here is growth in the firm's net profitability as manifested by the mean of 3.325 and standard deviation of 1.389. The mean response for growth in the firm's net profitability was 2.699 whereas its standard deviation was 1.112 signifying there was a moderate extent of growth in net profitability of small and medium enterprises. This observation was replicated for firm's operational efficiency and market share with means of 2.951 and 3.157 and corresponding standard deviations of 1.304 and 0.917 respectively. Generally, the aggregated scores of the observation made suggest that computerised information system has fostered performance of small and medium enterprise to a moderate extent. The consistency of these metrics, as indicated by the narrow ranges and relatively low standard deviations, suggests that they are reliable measures of firm performance, enabling managers to make informed decisions based on these indicators. Overall, this data empowers managers to focus their efforts on Key areas to drive business success and competitiveness.

Regression Analysis

Multiple linear regression analysis was conducted to show the relationship relationship between the research variables. The model summary results are as shown in Table 7.

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.791 ^a	0.626	0.607	0.41253

a. Predictors: (Constant), Cloud Computing services, Human resource management system, E-commerce Adoption, Accounting Information System

b. Dependent Variable: Firm Performance

The results of the regression analysis as shown by Table 7, coefficient of correlation was 0.791 with a adjusted coefficient of determination of 0.607. This meant that cloud computing services, human resource management system, e-commerce adoption, and accounting information system explained 60.7% of the variations in the performance of SMEs in Mombasa County (Adj R²=0.607). Thus, 39.3% (100%-60.7%) of the variation in the performance was

explained by other variables apart from the ones explored by the study. The model shows a strong relationship between computerized system and firm performance.

These results imply that the integration of computerized system, including cloud computing, HR management, e-commerce, and accounting information system, significantly influences the performance of small and medium-sized enterprises in Mombasa County, Kenya, showcasing the importance of technological adoption for SMEs in enhancing their operations and competitiveness. Analysis of variance establishes the validity and effectiveness of the model.

Table 8: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	22.248	4	5.562	32.682	.000 ^b
Residual	13.274	78	0.170		
Total	35.522	82			

a. Predictors: (Constant), Cloud Computing services, Human resource management system, E-commerce Adoption, Accounting Information System

b. Dependent Variable: Firm Performance

The regression model accounted for a significant amount of the variance in firm performance ($F(4, 78) = 32.682, P < 0.01$). The predictors collectively explained 22.248 units of the total sum of squares. The relationship between cloud computing services, human resource management system, e-commerce adoption, Accounting Information System and SME performance was significant.

Table 9: Model Coefficients

	Unstandardized		Standardized		t	Sig.
	Coefficients		Coefficients			
	β	Std. Error	Beta			
(Constant)	0.251	0.246			1.024	0.309
Accounting Information System	-0.054	0.074	-0.076		-0.735	0.368
Human resource management system	0.410	0.051	0.573		8.098	0.000
E-commerce Adoption	0.125	0.073	0.176		1.713	0.091
Cloud Computing services	0.356	0.080	0.439		4.430	0.000

a. Dependent Variable: Firm Performance

The coefficient for Accounting Information System is -0.054, with a p-value of 0.368, indicating that there is no statistically significant relationship between Accounting Information System and SME performance. The standardized coefficient (Beta) is -0.076, suggesting that changes in the use of Accounting Information System do not significantly influence the performance of SMEs. This finding aligns with previous studies, such as those by Werner (2019), who found that while Accounting Information System can theoretically improve financial management, their practical impact is often undermined by challenges such as poor implementation and lack of adequate training among employees. Therefore, the lack of significance in this study reinforces the idea that simply having these system in place does not guarantee improved performance unless proper resources and support are provided.

Additionally, the coefficient for Human Resource Management System (HRMS) is 0.410, with a p-value of 0.000, indicating a statistically significant positive relationship between HRMS and SME performance. The standardized coefficient (Beta) is 0.573, suggesting that improvements in HRMS lead to substantial enhancements in firm performance. This finding is consistent with Johnson et al. (2021), who found that effective HRMS improves employee satisfaction, retention, and operational efficiency, all of which are crucial for improving organizational performance. The significance of HRMS as a key predictor highlights the importance of investing in human resource management tools to drive business success.

Moreover, the coefficient for E-commerce adoption is 0.125, with a p-value of 0.091, indicating that the relationship between E-commerce adoption and SME performance is not statistically significant at the 0.05 level. The standardized coefficient (Beta) is 0.176, suggesting a weak positive association, though it is not statistically conclusive. This finding is consistent with findings by Carter & Wang (2020), who noted that while E-commerce adoption offers potential benefits like access to new markets, many SMEs fail to realize these benefits due to insufficient digital infrastructure and expertise. The results suggest that merely adopting E-commerce is not enough to drive significant performance improvements without addressing these underlying challenges.

The coefficient for Cloud Computing services is 0.356, with a p-value of 0.000, indicating a statistically significant positive relationship between Cloud Computing services and SME performance. The standardized coefficient (Beta) is 0.439, implying that as the adoption of Cloud Computing services increases, SME performance significantly improves. This finding is in line with Rogers et al. (2018), who demonstrated that Cloud Computing enables SMEs to scale operations efficiently, reduce costs, and enhance data management, leading to better business outcomes. The significance of Cloud Computing as a predictor underscores its role as a critical technology for boosting SME performance in the digital age.

SUMMARY

The objective of this study was to determine the effect of computerized system on the performance of SMEs in Mombasa County. The coefficient of determination indicated that the variations in the performance of SMEs in Mombasa County is explained by the independent variables. The adjusted R-squared value suggested that the model's goodness of fit was not significantly affected by the number of predictors in the model. The standard error of the estimate it represents the average distance between the actual and predicted values of employee performance. The regression model was statistically significant, as indicated by the low p-value (0.000^b) in the F-test. This means that at least one of the independent variables positively influenced the dependent variable.

The findings of the study showed that, accounting information system can be used by SMEs to enhance their performance but to a moderate extent. This is based on the first objective of the on determining the effect of AIS on the performance of SMEs in Mombasa County. Although AIS had a positive effect on performance of SME in Mombasa County as it was presented by the results from correlation and regression analysis, the results from coefficient model indicated that their effect on SMEs in Mombasa County was insignificant. Generally, AIS can positively impact the SME performance through the enhanced knowledge management which is one of the most important resources in obtaining sustainable competitive advantage.

The research findings presented that human resource management system had a significant effect on SME performance in Mombasa County. This showed that the adoption of human resource management system by SME positively affected their ability to fully understand their workforce as well as safety and efficiency in employee's data storage. Human resource management system mainly reduces the daily administrative task thereby reducing the cost and time which may lead to an increase in productivity of the firm in terms of revenues. The effect of human resource management system on SME performance in Mombasa County was the second objective of the study. This study suggests that, SMEs should normalise the use of human resource management system as they impact the business positively thus enhancing performance.

Determining the effect of e-commerce adoption on the performance of SMEs in Mombasa County was the third objective of the study. According to the study finding, e-commerce adoption effect on performance of SME in Mombasa County was significant as presented by correlation and regression analysis results. This means that the adoption of e-commerce by SMEs would increase their performance in terms of transaction cost reduction, increase in sales, saving of time and resources, better customer service, improvement in terms

of efficiency and increased profits. On the contrary, coefficient model results showed that the effect of e-commerce adoption on performance of SME in Mombasa County was insignificant. Thus, this study suggests the application of e-commerce by SMEs to a moderate extent.

Determining the effect of cloud computing on the performance of SMEs in Mombasa County was the fourth objective of this study. The findings of the study indicate that the effect of cloud computing on the performance of SMEs in Mombasa County was significant. This was supported by Khayer, Talukder, Bao, and Hossain (2020) who conducted a study on Cloud computing adoption and its impact on SMEs performance and confirmed that cloud computing adoption had a positive impact on firm performance. This study advocates for the application of cloud computing by SMEs in their daily operations as it helps in maintenance of flexibility, reliability, ensuring data security, scalability, rapid deployment, mobility, and disaster recovery. Cloud computing helps in saving time which may be used in focusing with the SMEs operations instead of managing of complex information technology infrastructure.

CONCLUSIONS

The study concludes that Accounting Information System (AIS) have a moderate but positive impact on the performance of SMEs in Mombasa County. While the regression analysis showed AIS had a positive influence on performance, the coefficients indicated an insignificant effect. Nonetheless, AIS contributes to improved knowledge management, which is crucial for attaining a sustainable competitive advantage. Therefore, SMEs should leverage AIS to enhance their data reporting, storage, and retrieval processes, which, over time, could boost performance in terms of efficiency and profitability.

Human Resource Management System (HRMS) were found to have a significant effect on SME performance in Mombasa County. HRMS play a pivotal role in reducing administrative burdens, ensuring safety and efficiency in employee data management, and improving workforce understanding. This leads to better decision-making and increased productivity. The study emphasizes that SMEs should normalize the adoption of HRMS, as it directly contributes to higher efficiency, reduced costs, and enhanced overall performance.

E-commerce adoption was shown to significantly affect the performance of SMEs in Mombasa County, as supported by correlation and regression analysis. SMEs that adopted e-commerce experienced benefits such as transaction cost reduction, increased sales, time savings, and better customer service. Although the coefficient model indicated an insignificant effect, e-commerce remains a crucial driver of SME performance. The study recommends that SMEs integrate e-commerce into their operations to enhance profitability and efficiency.

Cloud computing was also found to significantly impact SME performance in Mombasa County. The study aligns with previous research showing that cloud computing adoption enhances flexibility, reliability, data security, scalability, and mobility. It helps SMEs save time on managing complex IT infrastructure and allows them to focus on core business activities. Therefore, cloud computing is highly recommended for SMEs seeking to improve their operational efficiency and business performance.

In conclusion, the study confirms that computerized system, including AIS, HRMS, e-commerce, and cloud computing, significantly contribute to the performance of SMEs in Mombasa County. While some system showed varying degrees of impact, overall, the adoption of computerized system leads to better decision-making, cost reduction, and improved business operations. SMEs should fully embrace these technologies to remain competitive and achieve long-term growth and success.

RECOMMENDATIONS FOR POLICY AND PRACTICE

It is recommended that SMEs in Mombasa County prioritize the adoption and implementation of Accounting Information System (AIS) to enhance their performance. Although the study indicated a moderate effect of AIS on performance, the potential for improved knowledge management and operational efficiency is significant. SMEs should focus on optimizing their financial data reporting, collection, and security to leverage the benefits of AIS more effectively, which can ultimately lead to better decision-making and improved overall performance.

The research findings highlighted that Human Resource Management System (HRMS) significantly contribute to the performance of SMEs in Mombasa County. Therefore, it is recommended that SMEs actively invest in HRMS to streamline their workforce management processes. By automating e-training, performance management, and payroll system, SMEs can reduce administrative burdens, enhance employee satisfaction, and drive productivity. Normalizing the use of HRMS will not only improve organizational efficiency but also foster a more engaged and productive workforce.

E-commerce adoption demonstrated a significant positive impact on SME performance. Consequently, SMEs should prioritize the integration of e-commerce platforms into their business strategies. This can facilitate improved customer engagement, reduced transaction costs, and increased sales opportunities. By enhancing their online presence and adopting effective e-marketing strategies, SMEs can broaden their market reach and remain competitive in a rapidly evolving digital landscape.

Lastly, the study found that cloud computing has a significant effect on the performance of SMEs. Thus, it is recommended that SMEs in Mombasa County adopt cloud computing solutions to enhance their operational flexibility, data security, and collaboration capabilities. Embracing cloud technology can lead to cost savings and increased efficiency, allowing SMEs to allocate resources more effectively and focus on core business activities. By harnessing the advantages of cloud computing, SMEs can position themselves for sustainable growth and improved performance in the long term.

SUGGESTIONS FOR FURTHER RESEARCH

Based on the study finding, several suggestions for further research can be made to enhance the understanding of the dynamics between computerized system and performance of SMEs especially in Kenya but different counties apart from Mombasa County and investigate on the application, effectiveness of computerized system and the effect of this system on the employees of the SMEs.

The current study primarily collected data from all the SMEs operating in Mombasa County including the owners, managers, and partners. To gain a comprehensive understanding of the computerized system and SMEs performance, it would be valuable to gather perspectives directly from employees including their surveys or interviews. This could provide insights into their experiences, perceptions, and the effectiveness of different strategies.

The study proposes that research be conducted on the effect of computerized system on performance of other organizations such as governmental or non-governmental organizations applying other methods such as interviews thus providing a deeper understanding.

REFERENCES

- Achiando, H. A. (2018). *E-Commerce Strategy Adoption and Performance of Micro and Small Enterprises: A Case of private Security Firms in Nairobi County, Kenya* (Unpublished MBA Project) Kenyatta University.
- Ali, R. H. R. M., Mohamad, R., Talib, Y. Y. A., & Abdullah, A. (2018). The roles of top management and users in strategic IS planning: a perspective of SMEs. *Int. J. Inf. Syst. Proj. Manag*, 6, 61-80.
- Ama F. Karikari, S. Boateng, N. (2015). The Role of Human Resource Information System in the Process of Manpower Activities. *American Journal of Industrial and Business Management*, 5, 424-431.
- Chepkwony, N. C., & Chepkwony, J. (2017). *E-Ordering and E-Informing on Supply Chain Performance in Kenyan State Corporations in Nairobi County* (Unpublished MBA Project) University of Nairobi.
- Cooper, D., & Schindler, P. (2014). *EBOOK: Business Research Methods*. McGraw Hill.
- Dearing, J. W. (2015). Applying diffusion of innovation theory to intervention development. *Research on social work practice*, 19(5), 503-518.
- Dewi, I. G. A. A. O., Dewi, I. G. A. A. P., Kustina, K. T., & Prena, G. D. (2018). Culture of tri hita karana on ease-of-use perception and use of accounting information system. *International journal of social sciences and humanities*, 2(2), 77-86.

- Exposito, A., & Sanchis-Llopis, J. A. (2018). Innovation and business performance for Spanish SMEs: New evidence from a multi-dimensional approach. *International Small Business Journal*, 36(8), 911-931.
- Hammour, H., Househ, M., & Razzak, H. A. (2017). A Review of the Factors Associated with the Adoption of Accounting Information Systems in Gulf Countries. *Studies in Health Technology and Informatics*, 238, 197–200.
- Jordan, J. (2016). Interrelated factors influencing the adoption decision of AIS applications by SMEs in Jordan. *International Business Research*, 9(10).
- Kanake & Onyiego (2016). Challenges and Strategies in the Implementation of Human Resource Information Systems in Kenyan Universities, *Journal of Research on Humanities and Social Sciences*, 6(18), 221.
- Kela-Kahingo, C. M., Kinyua, G. M. & Muchemi, A. (2024). Strategic Flexibility as a Predictor of Organisation Performance in Commercial Banks in Kenya: The Mediating Role of Organisational Competences. *International Journal of Education and Research*, 12(10). 153-174.
- Khayer, A., Talukder, M.S., Bao, Y., & Hossain, M.N. (2020). Cloud computing adoption and its impact on SMEs' performance for cloud supported operations: A dual-stage analytical approach. *Technology in Society*, Vol 60.
- Kinyua, G. M. (2015). *Relationship between Knowledge Management and Performance of Commercial Banks in Kenya*. Doctoral Thesis, Kenyatta University; Nairobi, Kenya.
- King'oo, R. N., Kimencu, L. & Kinyua, G. (2020). Empirical Analysis of Effect of Information Technology Capability on Performance of Private Universities in Kenya: *International Journal of Managerial Studies and Research*, 8 (11): 52 – 61.
- Kinyua, G. M., Muathe, S. M. A. & Kilika, J. M. (2015). Effect of Knowledge Conversion and Knowledge Application on Performance of Commercial Banks in Kenya. *International Journal of Education and Research*, 3(10), 431- 444.
- KNBS (2020). *National Micro, Small and Medium Establishment (MSME) Survey. Highlights of Basic Report*. Kenya National Bureau of statistics, Nairobi, Kenya
- Kothari, C. R. (2014). *Research methodology: Methods and techniques*. New Age International.
- Kusuma, T. M., & Marhaeni, A. A. I. N. (2019). E-commerce and related factors on the performance of small and medium scale industries. *International Journal of*
- Lim, C.H., & Teoh, K.B. (2021). Factors influencing the SME business success in Malaysia. *Annals of Human Resource Management Research*, 1(1), 41–54. <https://doi.org/10.35912/ahrmr.v1i1.380>
- Lutfi, A. (2022). Understanding the Intention to Adopt Cloud-based Accounting Information System in Jordanian SMEs. *Int. J. Digit. Account. Res*, 22, 47-70.
- Mahliza, F. (2019). The Influence of E-Commerce Adoption using social media towards Business Performance of Micro Enterprises. *International Journal of Business, Economics and Law*, 8(5), 290-350
- Makuku, A. (2020). *Determinants Of Accounting Information Systems Adoption Among State Owned Corporations in Kenya* (Doctoral dissertation, KCA University).
- Mbogo, L., (2014). Methods of Accounting Practices by Small Business Owners in the Cape Coast Metropolitan Area of Ghana. *Journal of Polytechnics in Ghana*, Vol.5, No.1, pp-129-151.
- Mire, M. M. (2019). *Effect of E-Commerce on Performance in Agricultural Sector in Kenya: A Case of Twiga Foods Limited* (Unpublished Master's Thesis) United States International University-Africa.
- Murungi, N. K. & Kinyua, G. M. (2024). The Predictive Role of Organizational Vision on Performance of Medium-Sized Manufacturing Enterprises in Kenya. *International Journal of Education and Research*, 12(4): 11-28.
- Motum, A. L. & Kinyua, G. (2022). Customer Satisfaction in Non-Life Insurance Companies in Kenya: Does Information Technology Agility Matter? *International Journal of Managerial Studies and Research*, 10(10): 34-47.
- Mkonya, V. L., Jintian, Y., Nanthuru, S. B., & Jinyevu, S. A. (2018). Analysis of Top Management Support and Individual Factors Influence on Accounting Information System and its Impact on the Accounting Information Quality for Projects. *International Journal of Management Science and Business Administration*, 4(3), 19–29.
- Mugenda, O. & Mugenda, A. (2003). *Research Methods: Qualitative and Quantitative Approaches*. Nairobi: Acts Press.
- Murungi, N. K. & Kinyua, G. M. (2024). The Predictive Role of Organizational Vision on Performance of Medium-Sized Manufacturing Enterprises in Kenya. *International Journal of Education and Research*, 12(4): 11-28.
- Munene, Z. W. (2017). *Cloud Computing Adoption and Organization Performance Among Small and Medium Enterprise (SMEs) in Nairobi County* (Doctoral dissertation, University of Nairobi).

- Muthee, D. W. (2021). *E-commerce Adoption and Performance of Import Oriented Small and Medium Enterprises in Nairobi City County* (Doctoral dissertation, University of Nairobi).
- Ndiaye, N., Razak, L. A., Nagayev, R., & Ng, A. (2018). Demystifying small and medium enterprises'(SMEs) performance in emerging and developing economies. *Borsa Istanbul Review*, 18(4), 269-281.
- Ndiwa, E. C. & Kinyua, G. M. (2024). Learning Orientation and Firm Performances in the Context of Construction Firms in Nairobi County, Kenya. *Journal of Business and Management*, 26(11): 52-64.
- Nyang'au, R. N., Okibo, B. W., & Nyanga'u, A. (2015). Constraints affecting adoption of computerized accounting systems in Nyeri County, Kenya. *International Journal of Economics, Commerce and Management*, 3(5), 15-36.
- Ocharo, M. O. & Kinyua, G. (2021). Firm Competitiveness in Small Medium Enterprises in Starehe Sub-County in Kenya: What Role Does Organizational Learning Play? *International Journal of Managerial Studies and Research*, 9(11), 32-44.
- Odhiambo, I. B. & Kinyua, G. M. (2022). Human Resources and Service Delivery in Tier One Private Hospitals in Nairobi City County, Kenya. *International Journal of Research and Innovation in Social Science*, 5(12): 181-187.
- Ojiambo, N. B. & Kinyua, G. (2022). Product Development Strategy as a Predictor of Organizational Performance in the Context of Shimo La Tewa Prison Enterprises in Kenya. *International Journal of Managerial Studies and Research*, 10(1): 1-8.
- Osano, H. M. (2019). Global expansion of SMEs: role of global market strategy for Kenyan SMEs. *Journal of Innovation and Entrepreneurship*, 8(1), 1-31.
- Putteeraj, M., Bhungee, N., Somanah, J., & Moty, N. (2022). Assessing E-Health adoption readiness using diffusion of innovation theory and the role mediated by each adopter's category in a Mauritian context. *International Health*, 14(3), 236-249.
- Raduan, C. R., Jegak, U., Haslinda, A. & Alimin, I. I. (2019). Management, Strategic Management Theories and Linkage with Organization Competitive Advantage from Resource-Based View. *European Journal of Social Sciences*, 11(3), 402-417.
- Rose, R. Kumar, N. & Yen, L. (2013), Entrepreneurs Success Factors and Escalation of SMEs in Thailand. *Social Sciences Journal*, 3(1), 45-52.
- Sabwa, B. A. (2016). *Cloud computing adoption by small and medium enterprises (smes) in Nairobi County* (Doctoral dissertation, University of Nairobi).
- Sakwa, M., & Ngeno, J. (2018). *Influence of Electronic Order Processing on Supply Chain Performance of Sugar Processing Firms in Kenya* (Unpublished MBA Project) University of Nairobi
- Sartipi, F. (2020). Diffusion of innovation theory in the realm of environmental construction. *Journal of Construction Materials*, 1(4), 2-4.
- Sasaki, M. (2018). Application of diffusion of innovation theory to educational accountability: the case of EFL education in Japan. *Language Testing in Asia*, 8(1), 1-16.
- Singh, R. K., Luthra, S., Mangla, S. K., & Uniyal, S. (2019). Applications of information and communication technology for sustainable growth of SMEs in India food industry. *Resources, Conservation and Recycling*, 147, 10-18.
- Toroitich, J. K., Mburugu, K. N., & Waweru, L. (2017). Influence of employee competence on the implementation of electronic procurement in the selected county governments in Kenya. *International Academic Journal of Human Resource and Business Administration*, 2(3), 242-254.