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ELECTRONIC PAYMENTS AND SUPPLY CHAIN PERFORMANCE OF LARGE RETAIL CHAINS IN KENYA

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ABSTRACT

Based on the trend of performance, there has been a steady decrease in Retail Chains contribution to GDP from 8.0% in 2014 to 4.5% in 2018. In recent past, E-payment has emerged as a new strategy to improve performance. However, there is no empirical evidence to support its use as a market strategy that can turn the large Chains industry's income in Kenya around with higher results. Hence this study sought to establish the relationship between electronic payments and supply chain performance of Large Retail Chains in Kenya. The study also sought to establish the moderating effect of Top management support on the relationship between electronic payments and supply chain performance of Large Retail Chains in Kenya. The study was guided by technology acceptance theory and Power Theory. The study adopted descriptive research design and positivist research paradigm. The study targeted 12 Large Retail Chains in Kenya; they formed the unit of analysis while the unit of observation was heads of procurement department, logistics department, finance department and ICT department. Therefore, the target population for this study was 240 respondents. Census method was used in this study. A total of 24 respondents from Medium size Retail Chains in Kenya participated in the pilot test which represents 10% of target population. The study used research questionnaires to collect primary data. The Statistical Package for Social Sciences (SPSS) version 25 software was used to analyze the data. Qualitative data was analysed using content analysis and presented in prose form. Qualitative data was analysed using descriptive and inferential analysis. Descriptive statistics such as frequency, percentages, and means were used. Pearson correlation coefficient was used for testing strength and direction between the independent and the dependent variables. A multiple regression model was used to test the significance of the relationship between the independent variables and the dependent variable. The findings were presented in Tables and figures. The study concludes that electronic payments have a positive and significant effect on supply chain performance of Large Retail Chains in Kenya, Kenya. The study also concluded that top management support has a significant moderating effect on the relationship between electronic payments and supply chain performance of Large Retail Chains in Kenya. Based on the findings, this study recommends that the management of large retail chains in Kenya should give priority to electronic payments and top management support.

Key Words: Electronic Payments, Supply Chain Performance, Top Management Support

Background of the Study

In the world of challenging and competitive business ecosystem, the use of technological tools and services to drive innovation is no longer a minor matter; Rather, a key and necessary for public and private organisations adoption. It is relevant in today's world for businesses to provide clients with a cost-effective overall solution and good clients satisfaction using innovation and new technology. The advent of Information and Communication Technology (ICT), industries were compelled in switching business operations from the old-style to the philosophy of electronic business, electronic procurement and electronic supply chain to ensure sustainability. The private and public sectors have used Information Technology (IT) over the past decade to enhance and improve purchasing and some business processes (Koorn & Mueller, 2019).

In recent years, the integration of technology in supply chain management has revolutionized traditional processes, enhancing efficiency, cost-effectiveness, and responsiveness. Among these technological advancements, electronic payment systems have emerged as a critical enabler of improved supply chain performance (Kauffman, & Kriebel, 2018). Electronic payments, including mobile money transfers, online banking, e-wallets, and credit card transactions, are transforming how businesses interact within the supply chain. These payment systems offer seamless, secure, and timely transactions, minimizing delays and reducing administrative costs associated with manual payment methods (IvyPanda, 2020). The growing reliance on electronic payments can be attributed to the global push for digitization, increasing e-commerce activities, and the need for financial transparency in supply chain operations. According to the World Bank, digital financial services have significantly contributed to the inclusion of small and medium-sized enterprises (SMEs) in global supply chains by offering reliable payment methods and reducing transactional barriers (Centobelli, & Cerchione, 2018).

According to the Kenya Retail Sector Report (2020) themed "E-commerce Shaping the Retail Sector" the Kenyan retail sector's performance dropped slightly with average rental yields declining by 0.3% points to 6.7% in 2020, from 7.0% in 2019, while the occupancy rates declined by 0.7% points to 76.6% in 2020, from 77.3% in 2019. In 2019, the retail sector performance in the Nairobi Metropolitan Area declined by 5.4% and 4.7%, respectively to record rental yields of 8.0% and occupancy rates of 75.1%, respectively (Kenya Retail Sector Report, 2019). In 2020, the retail sector performance recorded a decline of 0.3% and 0.7% points in average rental yields and occupancy rates, respectively, coming in at 6.7% and 76.6%, respectively (Kenya Retail Sector Report, 2020).

Retail Chains contribute immensely to the socio economic wellbeing of a country. Research shows that the potential economic impact of a new Retail is vast (Wisner et al., 2019). The most important is the new Retail Chains' ability to create jobs and income. National data shows that a new Retail Chains can have an employment multiplier effect on the economy. Furthermore, between 50 and 75 percent of directly created jobs are filled locally, helping to pump income into the local community (McConnell, 2019). Thirdly, opening a new Retail Chains has an immediate and significant effect on commercial and residential real estate. Data from the Pennsylvania Fresh Food Financing Initiative indicates that opening a new Retail Chains instantly boosts home values by between four and seven percent. The new Retail Chains acts as an anchor retailer, attracting smaller Retail Chains and spur economic development (Wisner et al., 2019).

With the aforementioned significance of Retail Chains in an economy, Kenyan Vision 2030 considers Retail Chains as one of the most important retail sector in its achievement. The sector accounts for approximately 10 percent of the GDP and 10 percent of formal employment

(ROK, 2007). KIPPRA (2017) adds that, the sector serves as an important tax collection point as value added tax (VAT) is gathered at the Retail Chains level in this country; and similarly contributes to the social welfare of consumers by offering goods at reasonable prices (ROK, 2007; KIPPRA, 2017).The vision emphasizes the need to improve performance and raise productivity in Retail Chains trade as the economy heads towards a 10 percent growth rate (Sire & Muturi, 2017). Nevertheless, unpaid suppliers (Mburu, 2017) have mired the retail sector with several challenges with a number of them enduring worrisome financial woes, accompanied by empty shelves, closure of branches both locally and regionally and complaints. As a result, the contribution of the retail sector to the GDP has been progressively declining; standing at 8.0 percent in 2018 and further declining to 7.5 percent as at 2017 (PWC, 2016) putting doubt on the sector's ability to effectively contribute to the realization of the country Vision 2030. This then calls for a new approach with potential of improving performance of the Retail Chains in order to realize Vision 2030 milestones (GoK, 2007).

However, Mbuthia and Rotich (2018), report that an alarming two thirds of Retail Chains firms in Kenya drop out of the growth curve of the product lifecycle with cases of Retail Chains shutting down. This has resulted in criticism of practices being used by the management of Retail Chains (Mburu, 2017). Sire and Muturi (2017) assert that, the performance of Retail Chains depends a great deal on the service levels provided by stock management and as reported by Mwiriki (2017), a number of Retail Chains in Kenya have started automating their procurement systems in an attempt to improve their performance. From the studies above, the impact of E-Procurement Practices and Top management supporton Supply Chain Performance of Large Retail Chains in Kenya is yet to be empirically conclusively confirmed thus this study. As advised by Nyagah and Patrick, (2017), for Retail Chains firms in Kenya to meet the goals of Vision 2030 and the Big4 agenda, they need to aspire to achieve and guarantee product availability, on-time and efficient delivery of products and services to the end-customers. Thus this study on electronic payment, Top management support and supply chain performance.

Statement of the Problem

In the dynamic and competitive landscape of the retail industry in Kenya, Large Retail Chains face the imperative of optimizing their supply chain performance to meet customer demands efficiently (Bryan, 2018). Research has shown that the supply chain performance of the Kenya retail industry has been on the decline. Juma, (2020) indicates that the Retail Chains industry's dominance structure has shifted dramatically, with the lesser companies of the past being leading players and the biggest actors of yesteryear either extinguished or struggling to stay afloat. For instance, Uchumi has become a shell of its past, shutting down Nakumatt, Ukwala, and Jack and Jill's shops. Several existing dominants have trouble staying afloat, primarily because of overheads (Kitheka and Ondiek, 2020). This has seen a steady decrease in Retail contribution to GDP from 8.0% in 2014 to 4.5% in 2017 (Mburu, & Njeru, 2019). Despite high business turbulence recently witnessed, Retail Chains are one of the crucial retail sector that contributes in achieving the Vision 2030 and the government's Bottom-up Economic Transformation Agenda for socio-economic development. At a minimum, the industry is projected to contribute to the achievement of Vision 2030 and the Government's Big 4 agenda by 10 % of GDP and 10% of total formal employment (GoK, 2020).

According to Croom and Brandon (2018), e-procurement in an organization enables a firm to organize its interactions with its most crucial suppliers, a set of built in monitoring tools to help control costs, assure maximum supplier performance and keeping an open line of communication with potential suppliers during a business process all of which contribute to the attainment and sustenance of competitive advantage. Bryan (2018) argues that there is a direct relationship between e-procurement and organization performance. It is therefore

essential to establish the relationship between of e-procurement and supply chain performance of Large Retail Chains in Kenya. Top management supportis essential for the successful implementation of electronic procurement systems. Supportive leadership ensures that the necessary resources, both in terms of finances and human capital, are allocated to facilitate the smooth adoption of electronic procurement practices (Mwiriki, 2017). The retail industry, like many others, often faces resistance to change when implementing new technologies. Top management support can mitigate this resistance by fostering a positive organizational culture that embraces innovation. A supportive management team can communicate the benefits of electronic procurement to employees and address concerns, facilitating a more seamless transition (Wisner *et al*., 2019).

Various studies have been conducted on electronic payments and organization performance. For instance: Kheng and AlHawandeh (2018) investigated the adoption of electronic payments in Singapore and presented stumbling blocks to this initiative from the point of view of Singaporean firms; Metoh (2019) did a study on the factors affecting implementation of electronic payments system in the public sector: a case of National Aids Control Council; Muturi (2020) studies automation of inventory operations on performance of retail firms. Also, E-inventory management systems have been hypothesized to have significant effect on performance of retail firms (Mburu, 2019; Dedeke & Watson, 2018) through reduction of operation costs, effective control of inventories, untying working capital and improvement of customer services (Harshitha, 2018). Nevertheless, none of these studies established the relationship between electronic payments and supply chain Large Retail Chains in Kenya. To fill the highlighted gaps, the current study sought to the relationship between electronic payments and supply chain performance of Large Retail Chains in Kenya

Specific Objectives

This study was guided by the following specific objectives:

i. To establish the relationship between electronic payments and supply chain performance of Large Retail Chains in Kenya.
ii. To assess the moderating effect of top management support on the relationship between electronic payments and supply chain performance of Large Retail Chains in Kenya.

Theoretical Review

Technology Acceptance Theory

Devis (1986) came up with the technology acceptance theory. The theory holds that technological advancements will not enhance the effectiveness and performance within an organization if their users have not embraced change (Salford & Roche, 2019). This is one theory that has great potential to show the understanding of the impact of e- procurement on food and beverage firms. Davis, Bagozzi, and Warshaw (1992) propose Technology Acceptance Theory (TAT) to explain the conceptual model that users. intention or acceptance degree towards information system or new technology. TAT is constructed on the foundations of perceived usefulness and perceived ease of use.

Perceived usefulness refers to individual belief to improve the degree of job performance through using particular new technology and information system. Perceived ease of use indicates how easy an individual learns how to operate or use new technology or information system (Mentzer, 2010). The model places more emphasis on how perceived ease of use would positively affect perceived usefulness. Exogenous variables such as environment are also the antecedent that induces perceived usefulness and perceived ease of use (Pavlou, 2013). Thus,

TAT is based on both important perceptive factors as perceived usefulness and perceived ease of use. TAT is widely applied on the research of information technology. Li (2012) examined the significant variables to build a successful website based on TAT theory. Pavlou (2012) combined TAT and rust to propose an integrated model for explaining online consumer behavior. Lavelle and Bardon (2009) proposes e-commerce acceptance model of online consumers by separating and applying experiment designs and survey.

Follow-up studies such as Horst, Kuttschreuter and Guttering (2007) discusses whether or not the government of Netherlands should serve the public with electronic government like other countries do. The study integrates TAT factors, the experiences of the public, perceived risk and faith. The empirical results show that the principle of e-government is that people fully trust the governmental organization and that they highly identify with information technology.

As a result of the empirical study, scholars find that TAT does not only apply to examine new information technology accept intention or behavior, but also ensures that TAT is suitable for the explanation of online user behavior issues (Klein, Conn & Sorra, 2010). The technology acceptance theory is relevant to this study since it emphasizes that technological adoption improves company performance. In the context of Large Retail Chains in Kenya, the use of digital technologies enhances cost effectiveness in placing orders. The theory will therefore be adopted to explain adoption of electronic payments and its relationship with supply chain performance of Large Retail Chains in Kenya.

Power Theory

The power theory was developed by Dahl (1957). The theory states that, strategic change and strategy-making provides insights into how power is exercised by managers to carry out strategic actions (Hardy, 2016). Jarzabkowski and Balogun (2019) argue that, according to power theory, managers focus on creating strategies by using their power influence and control managers at the middle level to ensure alignment during strategic plan execution. Therefore, the top management at execution level must deal with major aspects, that is, to provide resources and give leadership in the entire process (Burney, 1991). The effective implementation of strategy is triggered by management monitoring of the implementation process and offering a clear direction of the project. The management of the firm should be willing to change and accept the fact that the exercise involves learning at all levels including the upper level management (Okioga, 2012).

Also, effective execution of the strategic plan requires creating some core competencies by using strategies for change management to promote infusion of the strategic plan in the work place; where the attitude of key users is changed through communication (Al-Mashari et al, 2003). The implementation process needs top management support throughout the organisation, since their approval is important to align the plan with strategic business goals. Therefore, the top-level managers' role in tying management bonuses to the success of the projects is of great importance. This includes allocating necessary people for implementation and providing reasonable time in accomplishing the task (Al-Mashari, *et al*, 2016).

Moreover, managers can enhance commitment with involvement and integration of workers starting from a lower lever (Beer & Eisenstat, 2018). This creates a kind of ownership of the new strategy for which, in return, commitment is increased. That is why other scholars argue that firms need a contributing, capable, competent, effective and executive leader as far as strategy execution is concerned. This also is supported by Cater and Pucko (20170) who argue that, a well-crafted strategy with a strong and effective pool of skills delivered from human resources, positively impacts successful execution of strategies, while poor leadership is considered as one of the key obstacles for execution of strategies in an organisation. Further,

poor communication in an organisation has negative effects on a firm's ability to execute and refine its strategy (Beer & Eisenstat, 2017). Therefore, this theory will be applicable in explaining the moderating effect of Top management support on the relationship between electronic payments and supply chain performance of Large Retail Chains in Kenya.

Conceptual Framework

A conceptual framework is a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation (Neuman, 2018). Mugenda and Mugenda (2019) define a conceptual framework as hypothesized model identifying the model under study and the relationship between study variables. Figure 2.1 presents the hypothesized relationship between the independent variables, the moderating variable and the dependent variable for testing in this study:

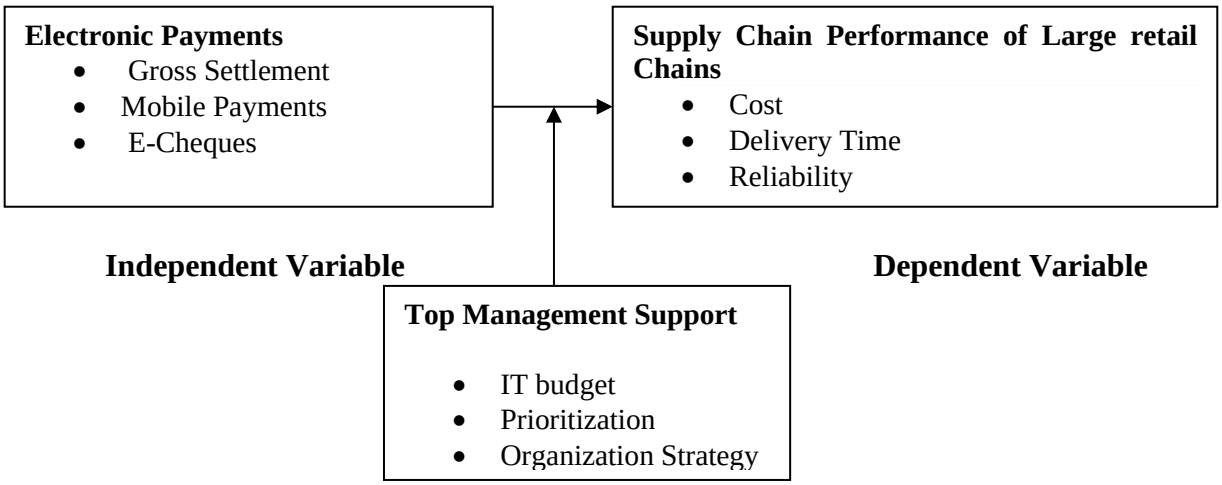

Figure 2.1: Conceptual Framework

Electronic Payment

Electronic Payment (e-payment) refers to the digital process of transferring money or funds from one account to another for the purpose of purchasing goods, services, or settling debts over the internet or other electronic networks (Kilay, Simamora & Putra, 2022). Unlike traditional payment methods such as cash or checks, electronic payments are conducted through various digital platforms or channels, including online banking systems, mobile apps, credit/debit card transactions, and payment service providers like PayPal, Venmo, or Stripe (Moon, 2015). Gross settlement refers to a payment system where each transaction is settled individually and in real-time, without being offset against other transactions. In a gross settlement system, payments are transferred directly from one party's account to another, and the transfer is final and irrevocable once completed (Hawking *et al,* 2018). This type of system is commonly used for high-value, time-sensitive transactions, such as large corporate payments, interbank transfers, or government settlements. One of the most well-known examples of gross settlement is the Real-Time Gross Settlement (RTGS) systems, which are used by central banks and financial institutions to settle interbank payments (Dooley, 2018).

Mobile payments are transactions made via a mobile device, such as a smartphone or tablet, to transfer funds in exchange for goods or services. These payments leverage mobile technologies and applications, such as Apple Pay, Google Pay, or Samsung Pay, as well as specialized mobile payment systems like Venmo or Alipay, which allow users to pay directly from their

mobile devices either in-store (via near-field communication or NFC technology), online, or through peer-to-peer transfers (Johnson *et al*, 2017). Mobile payments offer significant convenience, enabling consumers to make purchases without needing to carry physical cash or credit cards. Mobile wallets, which store payment information securely on a device, make the process seamless and fast, especially with features like biometric authentication (fingerprint or facial recognition) for added security. Moreover, mobile payment systems often integrate loyalty programs, discounts, and reward offers, creating a more engaging and personalized customer experience (Hawking *et al*, 2018). An e-cheque (electronic cheque) is a digital version of the traditional paper cheque that allows payments to be made electronically. Just like a paper cheque, an e-cheque involves the transfer of funds from the payer's account to the payee's account; however, it eliminates the need for physical paper documentation and manual processing (Kilay, Simamora & Putra, 2022). The payer authorizes the payment by inputting the necessary details, such as the bank account number and routing information, into an online form or payment platform. E-cheques are typically processed through an Automated Clearing House (ACH) network or similar electronic clearing systems, which ensure secure, real-time transfer of funds (Johnson *et al*, 2017).

Top Management Support

Top Management Support refers to the active involvement, commitment, and endorsement of an organization's senior leaders in the implementation and success of strategic initiatives, projects, or organizational changes. This support is crucial for driving the direction and ensuring the alignment of resources, policies, and goals with the broader vision of the organization (Salum, 2017). It involves both tangible actions, such as providing the necessary financial and human resources, and intangible actions, such as fostering a culture that encourages innovation and change. An IT budget is a financial plan that outlines the expenses associated with an organization's information technology needs. It encompasses a wide range of costs, including hardware, software, infrastructure, cybersecurity, cloud services, personnel, and ongoing maintenance (Thompson, Strickland & Gamble, 2017).

Prioritization in the context of organizational strategy and resource allocation refers to the process of determining which projects, initiatives, or tasks should take precedence over others based on factors such as urgency, impact, cost, and alignment with strategic goals (Abok, 2018). Effective prioritization ensures that limited resources—such as time, money, and personnel—are directed toward the most critical objectives, thereby maximizing organizational efficiency and success. In the IT realm, prioritization is especially important given the rapid pace of technological advancements and the constant demand for updates and upgrades (Iqbal *et al*, 2015). Organizational strategy refers to the long-term plan that defines how a company will achieve its objectives, sustain growth, and maintain competitive advantage in the market. It encompasses decisions regarding market positioning, product development, operational efficiency, and resource allocation (Thompson, Strickland & Gamble, 2017). A strong organizational strategy provides a clear roadmap for employees and stakeholders, helping to align efforts across departments and guide decision-making at all levels. For the IT function, organizational strategy often drives decisions about which technologies to adopt, which projects to fund, and how to structure the IT department to best support overall business goals (Awino, 2017).

Supply Chain Performance

Supply Chain Performance refers to the ability of a supply chain to meet its objectives effectively and efficiently. It encompasses a range of metrics and indicators that assess how well a supply chain is functioning in terms of cost, speed, quality, flexibility, and customer

satisfaction (Gioconda, 2018). The performance of a supply chain is influenced by various factors, including supplier relationships, inventory management, logistics, demand forecasting, and the overall coordination among different entities within the chain—from raw material suppliers to end customers (Croom & Brandon-Jones, 2017). Cost is one of the most critical factors in evaluating the performance of a supply chain. It encompasses all expenses associated with the procurement, production, and delivery of goods and services, including raw materials, labor, transportation, warehousing, inventory holding, and overhead costs. Managing costs effectively is crucial for maintaining profitability, as supply chain expenses can significantly impact the bottom line (Dooley, 2018).

Delivery time refers to the period it takes for a product or service to be delivered to the customer, from the moment an order is placed to when the goods arrive at their destination. This metric is a key indicator of supply chain efficiency and customer satisfaction. Reducing delivery time can give companies a competitive edge by improving responsiveness to customer needs and enhancing overall service levels (Maina, 2017). Companies can shorten delivery times through better forecasting, improved inventory management, streamlined production processes, or faster logistics networks. However, faster delivery often involves higher transportation costs or the need for more advanced supply chain technology (Kamotho, 2018). Reliability in the context of supply chain performance refers to the consistency and dependability of the entire supply chain in meeting expectations, particularly in terms of product quality, availability, and on-time delivery. A reliable supply chain minimizes disruptions and uncertainties, ensuring that products are delivered as promised without errors, defects, or delays (Gioconda, 2018). Reliability is often measured by the accuracy of order fulfillment, the consistency of product quality, and the ability to deliver on time. A supply chain that is reliable builds trust with customers, strengthens vendor relationships, and reduces the risks associated with stockouts or overstocking. It also fosters a strong reputation in the marketplace, which is essential for long-term business success (Croom & Brandon-Jones, 2017).

Empirical Review

Electronic Payment and Supply Chain Performance

Kilay, Simamora, and Putra, (2022) measured the influence of the use of e-payment and e-commerce services on MSME supply chain performance, as well as suggesting open innovations and solutions to accelerate the digitization of MSMEs. We collected data from 164 MSMEs in Indonesia, then conducted multiple linear regression analysis, descriptive analysis of research indicators, and interviews and discussions with research experts. The results demonstrate that there exists a positive and significant influence of both e-payment and e-commerce service variables on the performance of MSME supply chains in Indonesia. We determine ten research indicators with low values, which thus pose an obstacle to the digitization of MSMEs, and their implications, in order of open innovation and solutions, are presented in order to assist MSME actors, the government, and related institutions in accelerating the digitalization of MSMEs in Indonesia.

Moon (2015) examined the e-procurement management in state governments in U.S.A with a focus on diffusion of e-procurement practices and its determinants. The study adopted an explanatory research design. The study findings revealed that many state governments have implemented e-payment initiatives to improve their procurement performance and management. As such, e-payment was found to have enhanced procurement performance and hence was quickly adopted. Further; the study revealed that relatively simple e-payment tools

have diffused widely and rapidly among state governments in the past years. However, a contextual gap exists since the study was conducted in U.S.A.

Johnson *et al.,* (2017) evaluated the features of different e-payment systems from the view of Iranian users. The research findings identified security and trust as the most important features. The ability to transform and track was the least important features of e-payment systems. The features specified by different users for e-payment systems are not only considered important in designing new systems, but also engender its acceptance among users. Though the study supports the importance of e-payment, it presents a contextual gap since it was carried out in Iran.

Hawking *et al.,* (2018) evaluated the quality of the internet banking and payment services from the view of customers. Results indicated that customers were satisfied with four indices, including trustworthiness, accessibility, security, accountability, and task performance and dissatisfied with the user-friendly index. After evaluating the quality of electronic services on customers` satisfaction and return, results of Flynn *et al.,* (2010) indicated that efficiency, privacy, and accountability are effective and accessibility, service completion, and contact had no effect on customer satisfaction; eventually, customer satisfaction affects customers in reusing the electronic services. However, these studies did not focus on Retail Chains and thus present a contextual gap.

Dooley (2018) analyzed the effect of e-payment on customer satisfaction in Nigeria and adopted a descriptive research design. The study revealed a significant relationship between e-payment and customer satisfaction. Further, although e-payment is full of insecurities, it is common among the people of Nigeria due to its convenience, flexibility, speed, efficiency, and accessibility of transactions. The study reveals a contextual gap since it was conducted in Nigeria, which is a different environment from that of Kenya.

Top management support and Supply Chain Performance

In Tanzania, Salum (2017) conducted a study on the influence of top management and organization resources on implementation of strategic plans in public sector. The study used simple random sampling to select five (5) agencies; and convenient sampling to obtain fifty (50) respondents. Primary data were collected using questionnaires; then were analysed using of SPSS and Excel spread sheet; while documentary review was used to collect secondary data. The study found that, top management influence implementation of strategic plans as average of 68% of respondents agreed on the supports received from top management during implementation process; and average of 67% of respondents agreed that, resources such as human and financial are very key in the implantation process of strategic plans in public sector. Therefore, top management and organisation resources positively influence implementation of strategic plans in the public sector with purpose improving quality service delivery

Thompson, Strickland & Gamble, (2017) points out that, an excellent strategy is the best test for managerial excellence and the most reliable recipe for organisation success. Awino (2017) studied the effect of selected variables on corporate performance using 49 large private insurance firms in Kenya. His findings revealed that, culture and management were very critical variables in firms' performance; and concluded that, among the selected variables, both financial and non-financial performance were affected to varying degree.

Abok, (2018) conducted a study on the factors affecting the implementation of strategic plans in Non-Governmental Organisations (NGOs). This study concluded that, organisations which provided a conductive environment were effective in incorporating culture that encouraged togetherness, team spirit, and willingness to share and execute goals of organisation. On the

other hand, Mintzberg (2016) affirmed that, a successful execution of strategic plans is dependent on the learning and development environment for employees who are the true foot soldiers of implementations. This learning orientations requires emphasis on openness, collaborations, trust, equity, risk taking and continuous improvement. Also, Guth and McMillan (2016) revealed that, middle level manager's participation enhances successful strategy execution, and hence, managerial involvement is essential for organisations to attain the execution of planned strategies.

Iqbal *et al* (2015) conducted a study on moderating effect of top Top management supporton relationship between transformational leadership and project Success. The study covers a total of 125 project managers selected through systematic sampling technique by using mail survey method. PLS-SEM has been utilized to analyze the study data. The study concludes that project success can be enhanced through unfolding the relationships between project managers' transformational leadership and top management support. The study is pioneer to discuss these relationships particularly in a developing country. However, the study findings only rely on the higher education sector of Pakistan.

RESEARCH METHODOLOGY

Research Design

For this study, descriptive research design was utilized to investigate and additionally clarify existing status of affairs pertaining the objectives of a research. The major purpose of descriptive research design is to describe the state of affairs as it is at the time, and as Cooper & Schindler (2018) observe, a descriptive research design is a process of collecting data in order to answer questions concerning the current status of the subjects in the study in their natural set up, as they occur.

This study adopted a positivist research paradigm. Cooper and Schindler (2017) asserts that positivist research paradigm takes the quantitative approach and is based on real facts, objectivity, neutrality, measurement and validity of results.

Target Population of the Study

In this study, the target population was Large Retail Chains in Kenya. Large Retail chains typically refer to retail businesses that operate multiple stores across a region, country, or even internationally. These chains have a significant market presence and a wide network of outlets. They often offer a diverse range of products, including groceries, household items, electronics, clothing, and more. Large Retail chains leverage economies of scale to negotiate better deals with suppliers, providing consumers with competitive prices. In Kenya, 12 Retail Chains qualify to be in the category of large Retails. These include; Chandarana Retails, Eastmatt Retails, Carrefour Retail, Khetias Retails, Magunas Retails, Shivling Retails, Cleanshelf Retail, Woolmatt Retails, Jumaa Retails, Maathai Retails, Quick Mart Limited and Naivas Limited (KAM,2023).

The large Retail chains formed the unit of analysis while the unit of observation was senior employees working in 4 departments including procurement department, logistics department, finance department, and ICT department. These employees included; (the head of department, assistant head, secretary and 2 lower management employees). Therefore, the target population for this study was 240 respondents as shown in Table 3.1.

Table 3.1: Unit of Observation

Category	Total population
Procurement Department	60
Logistics Department	60
Finance Department	60
ICT Department	60
Total	**240**

The Census Method is commonly used in situations where the population size is relatively small or when resources allow for the collection of data from the entire population. This study used census method hence all the 240 respondents participated in the study.

Data Collection Instrument

Semi-structured questionnaires were structured into sections 1-5. Section one collected general information regarding the Retail Chains , while sections 2-4 collected information relevant to various study independent variables while section five targets information on Performance. The primary data was collected using a self-administered semi-structured questionnaire (Appendix II). The questionnaire contains both open and close ended questions based on the study objectives. According to Mugenda and Mugenda (2019), a questionnaire is appropriate for data collection from a large number of respondents as it helps to save on time spent in data collection. The researcher used semi-structured questionnaire as the primary data collection instrument for this study due to its practicability and applicability to the research problem and the size of the population. It is also cost effective (Denscombe, 2018).

Data Analysis and Presentation

The objectives of the study guided data analysis. SPSS was used to analyze the data collected from the field. To allow data to be entered into the software, the questionnaires were referenced, and the data coded. Both quantitative and qualitative data were collected. Quantitative data collected was analyzed using descriptive statistics techniques. Through descriptive analyses, correlational as well as experimental studies emerge; and they provide clues on the issues that require more attention which leads to further research (Mugenda & Mugenda, 2008). Qualitative data was analyzed using content analysis which was performed in SPSS. Before the data is analyzed, it was first coded, cleaned, and grouped as per their variables.

Pearson R correlation was used to measure strength and the direction of linear relationship between variables. The information was provide initial achievement of objectives 1, 2, 3 and 4 supply chain automation (electronic payments) and influence on supply chain performance of Retail Chains. A large correlation implies a strong relation exists between the variables.

Multiple regression models were fitted to the data to determine how the predictor/independent variables affect the response/dependent variable. Multiple regression analysis was used in this study because it uses the predictor variables in predicting the response variable. It is a statistical tool attempting to establish whether some variables can be used together in predicting a particular variable (Mugenda & Mugenda, 2018).

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \varepsilon}$$

This study used multiple regressions analysis (stepwise method) to establish the moderating effect of Top management support(Z) on the relationship between electronic payments and

supply chain performance of Large Retail Chains in Kenya. The regression model for the moderating effect was as follows;

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_{iz} X_i Z + \varepsilon, (i=1,)}$$

X_iZ_i is the interaction between the moderator with each of the independent variables (X_1).

BZi is the coefficient of X*Z the interaction term between the moderator and each of the independent variables for i = 1,

β_0 is constant (Y- intercept) which represent the value of Y when X =0

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Descriptive Statistics Analysis

In this section, the study presents the finding on the specific objectives of the study. On the likert scale questions, the scale was 5 with 1 Strongly Disagree, 2 Disagree, 3 Moderate, 4 Agree and 5 Strongly agree. Means and standard deviations were used to interpret the results with a mean of 0-1.4 implied that the respondents strongly disagreed, a mean of 1.4-2.4 implied they disagreed, 2.5-3.4 suggest that they were neutral, a mean of 3.5-4.4 suggest they agreed, and a mean of 4.5-5 implies the respondents strongly agreed (Trochim, 2016).

Electronic Payments and Supply Chain Performance

The first specific objective of the study was to establish the relationship between electronic payments and supply chain performance of Large Retail Chains in Kenya. The respondents were requested to indicate their level of agreement on various statements relating to electronic payments and supply chain performance of Large Retail Chains in Kenya. The results were as presented in Table 4.1.

From the results, the respondents agreed that real time gross settlement greatly reduces delivery time (M=3.931, SD= 0.891). In addition, the respondents agreed that mobile payments greatly reduce delivery time (M=3.855, SD= 0.857). Further, the respondents agreed that E-cards and E-cheques greatly reduce delivery time (M=3.720, SD= 0.714). The respondents also agreed that real time gross settlement greatly influences customer satisfaction (M=3.685, SD= 0.677). Further, the respondents agreed that mobile payments greatly influence customer satisfaction (M=3.678, SD= 0.656).

The respondents agreed that E-cards and E-cheques greatly influences customer satisfaction (M=3.658, SD=0.759). In addition, the respondents agreed that real time gross settlement greatly reduce costs (M=3.649, SD=0.898). The respondents also agreed that mobile payments greatly reduces costs (M=3.641, SD=0.789). Further, the respondents agreed that E-cards and E-cheques greatly reduces costs (M=3.587, SD=0.632).

The standard deviations in these results highlight the variability in respondents' perceptions regarding the impact of various payment methods on delivery time, customer satisfaction, and cost reduction. Lower standard deviations, such as for the influence of mobile payments on customer satisfaction (SD=0.656) and the impact of E-cards and E-cheques on cost reduction (SD=0.632), indicate strong consensus among respondents, suggesting these benefits are uniformly experienced. Moderate standard deviations, like for the impact of E-cards and E-cheques on delivery time (SD=0.714) and customer satisfaction (SD=0.759), show general agreement but with some variability, indicating that while many recognize these benefits, individual experiences might differ slightly. Higher standard deviations, such as for the impact

of real-time gross settlement on cost reduction (SD=0.898) and delivery time (SD=0.891), suggest more diverse opinions, reflecting a broader range of experiences or perceptions.

Table 4. 1: Electronic Payments and Supply Chain Performance

	Mean	Std. Deviation
Real time gross settlement greatly reduces delivery time	3.931	0.891
Mobile payments greatly reduce delivery time	3.855	0.857
E-cards and E-cheques greatly reduce delivery time	3.720	0.714
Real time gross settlement greatly influences customer satisfaction	3.685	0.677
Mobile payments greatly influence customer satisfaction	3.678	0.656
E-cards and E-cheques greatly influences customer satisfaction	3.658	0.759
Real time gross settlement greatly reduce costs	3.649	0.898
Mobile payments greatly reduces costs	3.641	0.789
E-cards and E-cheques greatly reduces costs	3.587	0.632
Aggregate	**3.712**	**0.764**

The respondents were further requested to indicate the challenges and possible solutions to Electronic Payments and Supply Chain Performance. From the results, the respondents indicated that one of the primary challenges of electronic payments is ensuring the security of transactions and preventing fraud. Cyber-attacks, data breaches, and fraudulent activities can compromise sensitive financial information, leading to significant financial losses and damage to the organization's reputation. Ensuring robust security measures to protect against these threats is a constant challenge. In addition, the respondents indicated that electronic payment systems are susceptible to technical issues and system downtimes. Network outages, software glitches, and server failures can disrupt payment processing, leading to delays, transaction failures, and customer dissatisfaction. Ensuring the reliability and availability of electronic payment systems is crucial for smooth operations. The respondents also indicated that integrating electronic payment systems with existing financial and operational systems can be complex. Disparate systems may not communicate seamlessly, leading to data inconsistencies and processing errors. Achieving a smooth and efficient integration that supports real-time data synchronization and accurate financial reporting is a significant challenge.

In relation to possible solutions to electronic payments challenges, the respondents indicated that to address security and fraud risks, invest in robust cybersecurity measures such as encryption, tokenization, and multi-factor authentication. Regularly update and patch systems to protect against emerging threats. Implement fraud detection and prevention mechanisms to identify and mitigate suspicious activities. Conduct regular security audits and employee training to ensure compliance with best practices. In addition, the respondents indicated that to mitigate technical issues and system downtimes, invest in reliable IT infrastructure and redundant systems to ensure high availability. Implement regular maintenance schedules and proactive monitoring to detect and address potential issues before they cause disruptions. Establish a contingency plan, including backup systems and manual processing procedures, to ensure continuity during unexpected downtimes. Further, the respondents indicated that to achieve seamless integration with existing systems, choose electronic payment solutions that offer compatibility and interoperability with your current financial and operational systems. Utilize standardized data formats and APIs to facilitate data exchange and real-time synchronization. Engage IT professionals to support the integration process and conduct thorough testing to ensure accuracy and efficiency.

Top Management Support and Supply Chain Performance

The second specific objective of the study was to assess the moderating effect of top management support on the relationship between electronic payments and supply chain performance of Large Retail Chains in Kenya. The respondents were requested to indicate their level of agreement on various statements relating to management support on the relationship between electronic payments and supply chain performance of Large Retail Chains in Kenya. The results were as presented in Table 4.2.

From the results, the respondents agreed that top management actively supports supply chain initiatives within their organization (M=3.885, SD= 0.887). In addition, the respondents agreed that there is a clear commitment from top management to invest in supply chain improvements (M=3.808, SD= 0.745). The respondents also agreed that top management regularly communicates the importance of supply chain performance to all employees (M=3.787, SD= 0.623). Further, the respondents agreed that adequate resources (financial, human, technological) are allocated by top management to enhance supply chain operations (M=3.720, SD= 0.768).

The respondents agreed that top management encourages innovation and continuous improvement in supply chain processes (M=3.719, SD=0.756). The respondents also agreed that there is strong alignment between top management's strategic goals and supply chain objectives (M=3.704, SD=0.567). In addition, the respondents agreed that top management participates in setting and reviewing supply chain performance metrics (M=3.687, SD=0.897). Further, the respondents agreed that top management provides the necessary training and development programs for supply chain staff (M=3.679, SD=0.664). The respondents agreed that decisions made by top management consider their impact on supply chain performance (M=3.664, SD=0.756).

The standard deviations in the responses reveal the level of consensus among respondents regarding top management's support for supply chain initiatives. Lower standard deviations, such as for the alignment between top management's strategic goals and supply chain objectives (SD=0.567) and the regular communication of supply chain performance importance (SD=0.623), indicate a strong consensus, suggesting that these aspects are consistently experienced and perceived across the organization. Moderate standard deviations, like for the allocation of adequate resources (SD=0.768) and encouragement of innovation (SD=0.756), point to a general agreement but with some variability, indicating that while many respondents recognize these supports, their experiences may vary slightly. Higher standard deviations, such as for top management's participation in setting and reviewing supply chain performance metrics (SD=0.897) and active support for supply chain initiatives (SD=0.887), suggest more diverse opinions, reflecting differences in individual perceptions or experiences, potentially due to varying levels of visibility or engagement with top management across different areas of the organization.

Table 4. 2: Management Support and Supply Chain Performance

Statement	Mean	Std. Deviation
Top management actively supports supply chain initiatives within our organization.	3.885	0.887
There is a clear commitment from top management to invest in supply chain improvements.	3.808	0.745
Top management regularly communicates the importance of supply chain performance to all employees.	3.787	0.623
Adequate resources (financial, human, technological) are allocated by top management to enhance supply chain operations.	3.720	0.768
Top management encourages innovation and continuous improvement in supply chain processes.	3.719	0.756
There is strong alignment between top management's strategic goals and supply chain objectives.	3.704	0.567
Top management participates in setting and reviewing supply chain performance metrics.	3.687	0.897
Top management provides the necessary training and development programs for supply chain staff.	3.679	0.664
Decisions made by top management consider their impact on supply chain performance.	3.664	0.756
Aggregate	**3.739**	**0.740**

Test for Hypothesis One

The first objective of the study was to establish the relationship between electronic payments and supply chain performance of Large Retail Chains in Kenya. The corresponding hypothesis was:

Ho_1: Electronic payment has no significant relationship with supply chain performance of Large Retail Chains in Kenya.

A univariate analysis was therefore conducted to test the null hypothesis. From the model summary findings in Table 4.3, the r-squared for the relationship between Electronic payment and supply chain performance was 0.222; this is an indication that at 95% confidence interval, 22.2% variation in supply chain performance can be attributed to Electronic payment. Therefore, Electronic payment can be used to explain 22.2% change in supply chain performance. However, the remaining 77.8% variation in supply chain performance suggests that there are other factors other than Electronic payment that explain supply chain performance of Large Retail Chains in Kenya

Table 4.3: Model Summary for Electronic payment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.471[a]	.222	.219	.70542

a. Predictors: (Constant), Electronic payment

The analysis of variance was used to determine whether the regression model is a good fit for the data. From the analysis of variance (ANOVA) findings in Table 4.4, the study found out that that $Prob>F_{1,218}= 0.000$ was less than the selected 0.05 level of significance. This suggests that the model as constituted was fit to predict supply chain performance. Further, the F-calculated, from the table (360.50) was greater than the F-critical, from f-distribution tables

(3.884) supporting the findings that Electronic payment can be used to predict to predict supply chain performance of Large Retail Chains in Kenya.

Table 4.4: ANOVA for Past Strategy on Electronic payment

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.179	1	42.179	360.50	.000[b]
	Residual	25.398	218	.117		
	Total	67.577	219			

a. Dependent Variable: supply chain performance

b. Predictors: (Constant), Electronic payment

From the results in table 4.5, the following regression model was fitted.

$$Y = 2.142 + 0.411\ X_4$$

(X_1 is Electronic payment)

The coefficient results showed that the constant had a coefficient of 2.142 suggesting that if Electronic payment was held constant at zero, supply chain performance of Large Retail Chains in Kenya would be at 2.142 units. In addition, results showed that Electronic payment coefficient was 0.411 indicating that a unit increase in Electronic payment would result in a 0.411 unit improvement in supply chain performance. It was also noted that the P-value for past strategy was 0.000 which is less than the set 0.05 significance level indicating that Electronic payment was significant. Based on these results, the study rejected the null hypothesis and accepted the alternative that electronic payment has positive significant influence on supply chain performance of Large Retail Chains in Kenya.

Table 4.5: Beta Coefficients for Electronic Payment

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.142	.176		12.185	.000
	Electronic Payment	.411	.045	.471	9.207	.000

a. Dependent Variable: supply chain performance

Test for Hypothesis Two

The second objective of the study was to assess the moderating effect of top management support on the relationship between electronic payment and supply chain performance of Large Retail Chains in Kenya. Moderation happens when the relationship between the dependent variable and the independent variables is dependent on a third variable (moderating variable). The effect that this variable has is termed as interaction as it affects the direction or strength of the relationship between the dependent and independent variable. To achieve the second research objective, the study computed moderating effect regression analysis. This (moderating effect regression analysis) also guided the study in testing the second research hypothesis. Top management support (M) was introduced as the moderating variable.

Ho_2: Top management support has no moderating effect on the relationship between electronic payment and supply chain performance of Large Retail Chains in Kenya.

The model for the moderating effect was:

$Y=\beta 0+ \beta 1X1*Z+ + \varepsilon$

Where Z is the moderator (Top management support), X1 is the independent variable

From the model summary findings in Table 4.6, the first model for which is the regression between supply chain performance of Large Retail Chains in Kenya (X) without moderator, Top management support (M) and interaction, the value of R-squared was 0.336 which suggests that 33.6% change in supply chain performance of Large Retail Chains in Kenya can be explained by changes in electronic payment. The p-value for the first model (0.000) was less than the selected level of significance (0.05) suggesting that the model was significant. The findings in the second model which constituted components of electronic payment, Top management support and supply chain performance of Large Retail Chains in Kenya (X*M) as predictors, the r-squared was 0.568. This implies that the introduction of Top management support in the second model led to a 0.232 increase in r-squared, showing that Top management support positively moderates supply chain performance of Large Retail Chains in Kenya.

Table 4.6: Model Summary for Moderation Effect

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	.580[a]	.336	.334	.65170	.336	150.295	1	184	.000
2	.754[b]	.568	.564	.52727	.232	79.360	3	183	.000

a. Predictors: (Constant), supply chain security management

b. Predictors: (Constant), electronic payment, top management support, Interaction (X*M)

From the model summary findings in Table 4.7, the F-calculated for the first model, was 644.77 and for the second model was 571.21 Since the F-calculated for the two models were more than the F-critical, 3.884 (first model) and 2.646 (second model), the two models were good fit for the data and hence they could be used in predicting the moderating effect of top management support on the supply chain performance of large retail chains in Kenya.

Table 4.7: ANOVA for Moderation Effect

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	63.832	1	63.832	644.77	.000[b]
	Residual	21.675	218	0.099		
	Total	85.507	219			
2	Regression	107.958	3	35.986	571.21	.000[c]
	Residual	13.622	216	0.063		
	Total	121.58	219			

a. Dependent Variable: supply chain performance
b. Predictors: (Constant), electronic payment * Top management support,

Further, by substituting the beta values as well as the constant term from the coefficient's findings for the first step regression modelling, the following regression model will be fitted:

$Y = 1.387 + 0.608 X$

Where X is electronic payment

The findings show that when electronic payment is held to a constant zero, supply chain performance of Large Retail Chains in Kenya will be at a constant value of 1.387. The findings

also show that electronic payment has a statistically significant effect on supply chain performance of Large Retail Chains in Kenya as shown by a regression coefficient of 0.608 (p-value= .000).

By substituting the beta values as well as the constant term from model 2 emanating from the second step in regression modeling the following regression model was fitted:

Y= 3.876 + 0.220 X + 0.325 M + 0.283 X*M

Where X is electronic payment; M is top management support and X*M is the interaction term between electronic payment and top management support.

The findings show that when electronic payment, top management support, interaction (X*M) are held to a constant zero, supply chain performance of Large Retail Chains in Kenya will be at a constant value of 3.876. The model also indicated that electronic payment had a positive and statistically significant effect on supply chain performance of Large Retail Chains in Kenya as shown by a regression coefficient of 0.220 (p-value= 0.002). It is also seen that top management support had a positive and significant effect on supply chain performance of Large Retail Chains in Kenya as shown by a regression coefficient 0.325. On the other hand, interaction of electronic payment and top management support (X*M) also had a positive and significant effect on supply chain performance of Large Retail Chains in Kenya as shown by a regression coefficient of 0.283 (p-value= 0.000).

It is therefore seen that electronic payment on its own has 22% effect on supply chain performance of Large Retail Chains in Kenya. However, when interacted with top management support, it has an effect of 28.3%. This is a clear indication that introduction of top management support as moderating variable has positive influence on supply chain performance of Large Retail Chains in Kenya. The study therefore rejects the null hypothesis and accepts the alternative that top management support has significant moderating effect on the relationship between electronic payment and supply chain performance of Large Retail Chains in Kenya.

Table 4.8: Beta Coefficients for Moderation Effect

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.387	.194		7.163	.000
	electronic payment	.608	.050	.580	12.260	.000
2	(Constant)	3.876	1.009		3.841	.000
	electronic payment	.220	.067	.782	3.284	.002
	Top management support	.325	.048	.310	6.748	.000
	Interaction (X*M)	.283	.065	1.661	4.357	.000

a. Dependent Variable: supply chain performance

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Electronic Payments

The first null hypothesis test was ‘Electronic Payments has no significant influence on supply chain performance of Large Retail Chains in Kenya. The study found that electronic Payments is statistically significant in explaining supply chain performance of Large Retail Chains in Kenya. The influence was found to be positive. The study concludes that electronic payments have a positive and significant effect on supply chain performance of Large Retail Chains in Kenya, Kenya. Findings revealed that gross settlement, mobile payments and e-cheques

influences supply chain performance of Large Retail Chains in Kenya. This implies that a unit improvement in electronic payments would lead to improvement in supply chain performance of Large Retail Chains in Kenya

Top Management Support

The second null hypothesis test was 'Top management support has no significant moderating effect on the relationship between electronic payment and supply chain performance of Large Retail Chains in Kenya. The study found that Top management support has a significant moderating effect on the relationship between electronic payment and supply chain performance of Large Retail Chains in Kenya. The influence was found to be positive. The study concluded Top management support has a significant moderating effect on the relationship between electronic payment and supply chain performance of Large Retail Chains in Kenya. Findings revealed that IT budget, prioritization and organization strategy influences supply chain performance of Large Retail Chains in Kenya. This implies that a unit improvement in top management support would lead to improvement in supply chain performance of Large Retail Chains in Kenya

Recommendations

The study found that electronic payments have a positive and significant effect on supply chain performance of Large Retail Chains in Kenya, Kenya. This study therefore recommends that large retail chains in Kenya should implement an integrated electronic payment system that includes dedicated supplier portals.

Further, the study found that top management support has a positive and significant effect on supply chain performance of Large Retail Chains in Kenya. This study therefore recommends that large retail chains in Kenya should actively foster strong top management support for their digital transformation initiatives

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