CONTROL ENVIRONMENT AND FINANCIAL RISK MITIGATION EFFICIENCY OF SUPERMARKETS DURING COVID-19 IN NAIROBI CITY COUNTY, KENYA

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ABSTRACT

Retail business ventures world over are well thought-out susceptible to various threats that needs to be tackled to shun impending financial fatalities/damages. Like any other type of business operating in Kenya, supermarkets face a myriad of financial and operating risks when carrying out their day to day operations. In the recent past, many supermarkets in Nairobi and other areas in the country have been forced to close down. Among the factors that have contributed to the closure and poor survival rates in the supermarkets sector is the increasing financial and operational risks. Consequently, management duty's significance in guaranteeing adequacy and efficacy of laid down guidelines and act in moderating such threats cannot be overemphasized. In today's business environment with tight margins and fierce competition, management competence significantly determines whether or not a business entity going to be successful. Currently, this study sought to determine the influence of control environment on the financial risk mitigation efficiency among the supermarkets during COVID-19 in Nairobi County, Kenya. Particularly, it sought to institute the link amid ICT integration, management efficiency, physical controls of assets, authorization and approval of transactions and financial risk mitigation efficiency of supermarkets during COVID-19 in Kenya's Nairobi City County. Contingency Theory (CT), Technology acceptance theory, Cressey's Fraud Theory and Firm Value Maximization Theory serve as anchored theories. Descriptive research design was adopted by the study. 66 supermarkets as recognized by Kenya's RETAK comprised the study's target population. The study exclusively targeted branch managers/heads of the 66 supermarkets in Kenya's Nairobi City County. Cumulatively, the population of the study was made of 66 respondents selected through purposive sampling technique. Descriptive statistics involving frequencies, means and standard deviations were used. Diagnostic test such as multicollinearity and normality model fit analysis of variance and coefficient parameters were employed to validate the regression model. The study found that information communication and technology integration is a statistically significant predictor of financial risk mitigation efficiency ($\beta1=0.191$, $p<.05$). The study also found that management efficiency is a statistically significant predictor of financial risk mitigation efficiency ($\beta2=0.339$, $p<.05$). Further, the study found that physical control of assets is a statistically significant predictor of financial risk mitigation efficiency ($\beta2=0.123$, $p<.05$). Finally, the study further found that physical control of assets is a statistically significant predictor of financial risk mitigation efficiency ($\beta2=0.733$, $p<.05$).

Key Words: ICT Integration, Management Efficiency, Physical Controls of Assets, Authorization and Approval of Transactions and Financial Risk Mitigation Efficiency.

INTRODUCTION

Modern entrepreneurial realm is being described by rivalry and stiff competition where majority of business organizations are experiencing tough epoch staying afloat with realities; consequently, the adoption of management by institutions must take into account, expect and curtail the internal and external (new systems, regulatory variation, staff variation, natural disaster and economic situations) threats which hampers business objectives accomplishment (Sigler & Murphy, 2013). World over, the retail trade segment is one of the foremost critical divisions that stimulate economic growth. Consequently, financial risk assessment of any trading entity is imperative for its stability, subsequently determinants to superior budgetary execution get to be indeed more critical (Njiru, 2016).

The retail business financial risk in the world has continued to widen thereby affecting the general performance of the business of the world. The rising financial risk has been attributed to new digital launch, new digital models of sales, business acquisition, or the transformation of fulfillment process (Deloitte, 2019). Many retail businesses (supermarkets) have continued to face precarious financial condition due to the cost of increasing market share arising from competitive battles on multiple fronts. According to Statistica (2021) financial risk rating, retail supermarket businesses in the UK recorded 40%, Netherland 35%, China 42% and America 29% respectively.

Retail business competition in Africa over time has continued to increase thereby giving rise to high financial risk. This has continued to expand retail market size in Africa thereby giving room to capital accumulation. Thus, Statistica (2016) put the value of retail market for East Africa at 145 billion US dollar, Nigeria at 123 billion US dollar and South Africa at 133 billion US dollar respectively. The expanding retail market in Africa has been attributed to the growing population as well as other variables encouraging the growth of retail (supermarkets) businesses.

In Kenya, retail businesses (supermarkets) have continued to expand thereby encountering so many financial risks associated with it. However, according to the Kenya's Retail Report (2019), the retail sector feat retarded as rental yields average decreased by 1.6% point's year on year basis to 7.0%, from 8.6% in 2018, credited to the sturdy economic environment. Furthermore, the sector in 2020 has declined performance recorded on an average of 6.7%, which was 0.3% points less those in 2019 (Kenya's Retail Report, 2020). The downcast feat of supermarket is also attributed to the present inundated retail supermarkets thereby diverting attention to e-commerce resulting in decrease in the order for material retail areas, and hence constraining consumers' expenditure due to the extremely harsh budgetary situation (Muthusi, 2017).

The decline was blamed on constricted reach of financial assets, proceeded retreat of some supermarkets, the likes of Shoprite owing to COVID-19 and compelling buying power amongst consumers and growing focus of e-commerce. Control environment entails administration purposes and governance of approaches, consciousness not forgetting events of the particular charged with management and governance of business individuality control significance (Olumbe, 2012). He further asserted that, to avoid or rather manage this kind of behavior, organizations should consider hiring well trained and reputable accountants, supervise or rather closely monitor employees, and have a management personnel who have the knowledge ethical and unethical behavioral factors.

According to Simkins and Fraser (2010), money is the most common impetus driving fraud in organizations with the danger of job loss which could persuade or force people to their extremes and to a large extent extends their bounds. Disconnection from purpose and served people could also encourage this practice type. However, a business entity management control measures should be set up to achieve business targets (Yang & Guan, 2014). A plan of practical internal controls practices is a basic part of organization the board and a beginning of the free from any impeding harms firm's operations. In any case, inadequate internal controls bring about insufficient projects and inevitably prompting the misfortunes (Olumbe, 2012).

Statement of the Problem

Across the globe, the progress of business activities faces serious impacts from the situations such as the COVID-19 pandemic which led to the general fall or slowdown in economic productivity. Supermarket businesses all over the world received great shock in financial capacity due to the hit of covid-19 (Neuninger & Ruby, 2020). For firms, financial risk has become increasingly significant. Nothing seems to be stable in today‘s changeable climate except risk. Establishing a satisfactory risky context, detecting as well as assessing financial riskiness, minimizing risk exposures, evaluating risks, as well as establishing measures to safeguard firms from financial risks are all part of regulating financial risk. Kenya's authorities and corporate market have created a really favorable framework and have extensively engaged in enterprises such as supermarkets (Odipo, 2020).

This pandemic led to the closure of so many businesses including supermarkets, companies and other economic productive units of various economies of the world. As a result, it exposes the financial risk of retail businesses notably supermarket businesses in the UK recorded 40%, Netherland 35%, China 42% and America 29% respectively (Statistica, 2021). In Kenya, supermarkets are facing a myriad of financial and operational risks in the course of their day to day operations (Gitau, 2018). In addition, supermarkets in Nairobi have also encountered with the challenges related to financial and operational risks most especially during COVID-19 in their activities have been encountering the challenge of operational and financial risks which

may have contributed to the collapse of most of the major players in the supermarket sector in Nairobi City County among many other regions in Kenya. For instance, recent cash crunch that forced Tuskys Supermarket to shut more branches throughout the Country with similar case for Nakumatt Supermarket, all attributed to financial risk (Grashuis, Skevas & Segovia, 2020). The COVID-19 situation negatively impacts on the Kenya's shopping business as well as society overall. Leading to a downward trend in financial productivity and real wages, several merchants have faced some financial risk.

Despite the continuous growth in supermarket chains in Kenya, the subsector still face mirage of financial risk challenges. Supermarkets function in a risky setting, putting themselves at risk of shortfalls if such concerns materialize. Risk mitigation is therefore critical, with the goal of guaranteeing certain risks are recognized and preventive actions are implemented.

Several studies have been conducted in an attempt to address the exposures of business financial risk in Kenya. For instance, Mwakimasinde et al (2014) established that Leverage and liquidity emerged as to have zero significant impact on the financial distress experienced by the corporates and hence the current study seeks to explore other variables which affect supermarkets financial risk as the other study focused on banks. Similarly, Mohamed (2017) found out that recording of inventory, stock taking, training on the management of inventory and e-procurement have a significantly positive impact on the financial performance and sustainability of a business organization. On the other hand, the present study analyzes financial risk against control environment of supermarkets. Furthermore, Matayo and Muturi (2018) demonstrated that financial risk variables had a significant impact on the financial outcome of supermarket's liquidity risk. While the present study had several similarities, the current study despite being similar, deviated on the basis that the current study focused on all supermarkets in Nairobi County of Kenya. Nonetheless, the studies conducted in an attempted to address financial risk of organization in Kenya had failed to incorporate physical control assets, authorization and approvals, ICT integration and management efficiency as variables that affect financial risk management of supermarkets in Nairobi City County, Kenya, also the studies did not address financial risk mitigation during the pandemic. Thus, depicting research gaps which the current study sought to address by establishing the effects of control environment on financial risk mitigation efficiency among supermarkets during COVID-19 in Nairobi City County of Kenya.

Objective of the study

To investigate the associated link between control environment and financial risk mitigation efficiency of supermarkets chain during COVID-19 in Nairobi City County, Kenya.

Specific Objectives

i) Evaluate information communication and technology integration effect on financial risk mitigation efficiency of supermarkets chain during COVID-19 in Nairobi City County, Kenya.
ii) Examine management efficiency influence on financial risk mitigation efficiency of supermarkets chain during COVID-19 in Nairobi City County, Kenya.
iii) Examine physical control of assets influence on financial risk mitigation efficiency of supermarkets chains during COVID-19 in Nairobi City County, Kenya.
iv) Investigate how approval and authorization of transactions impacts on the on financial risk mitigation efficiency of supermarkets chain during COVID-19 in Nairobi City County, Kenya.

THEORETICAL REVIEW

Contingency Theory

Contingency theory was advanced by Burns and Stalker in 1961. The theory established the link between organizational behavior and contingency factors including external environment, cultural impacts and technological aspects which affects the design and organizational functionality. The theory assumed that organizational structure's uniqueness do not cut across all organization as each has peculiar features. Relatively, information system, technology, the organizational size, environmental volatility and the characteristics of organizational structure determine the organizational effectiveness which in most cases serves as a fit or match with all these factors (Mintzberg, 1979). Depending on the situation at hand, organizational financial managers adopt situational approach in practical planning process, ICT integration decisions and internal control activities in management (Woodward, 1965). According to Mintzberg, (1979) the theory appended to management theory by hinging on managerial decision making which is hinged on the operational business environment. The quality of decision making in tackling situational unknown variables has helped organizational management (Woodward, 1965).

Despite the importance of this theory to managerial decision making process, contingency factors are still being debated upon and continuous suggestions therefore is hitherto difficult to ascertain the numbers of situational factors consequently, the embedding of symmetrical and non-monotonic assumptions in the theoretical arguments (Mintzberg, 1979). In support, Morgan (2007) poured out his vengeful intent pointing out that the integration of different schools of thoughts formed the basis for this situational approach to management decision process thus; actions are taken based on managerial situation of the organization. However, this theoretical framework finds application in the present study due to the fact that it provides the bases upon

which supermarkets carry out decisions regarding physical controls in controlling the financial threats given the principles that guides the operations of the business in Nairobi County of Kenya.

Technology Acceptance Model

The model was created in 1986 by Fred Davis as an information system and shows how consumers acknowledge and adapt to technology. Bouziane & Elaasri (2019), argue that the model theorized on why users accepted or rejected information technology. The user behavioral intention to apply the technology based on its usefulness and the utilization of the technology. The usefulness perceived is the belief that the technology will increase performance while perceive use means that the use of the technology will be effortless to some extent. Perceived usefulness and perceived use are predictors of attitude and desire to use the technology. The technology acceptance model informs the present study since it provides knowledge on integration of technology within an organizational context. This model thus helps in comprehending how technology is employed in an organization helps in prevention of financial risks.

Cressey's Fraud Theory

Cressey, (1953) figured a model, referred to as the fraud triangle in the modern literature. This theory argued that, people who are trusted may turn out to be violators of trust when money related matter as imagined by themselves is indivisible owing to the fact that the issue can be settled furtively by encroaching on the situation of monetary confinement that is applicable directly to them in the event of moralizations that allow them to vary their roots of clients of the endowed assets and properties.

The deterrent to preventing fraud as internal control measures focused on enhancing organizational performance via individuals. The model, also referred to as fraud triangle explains factors that engineers someone to enter into occupational fraud. In the model, three things lead to fraudulent behavior: perceived opportunity, rationalization and indivisibles perception.

Wolfe and Hermanson, (2004) however highlighted that, on a very basic level, justification is a cognizant choice by the perpetrator to put their necessities over the requirements of others. The moral choice procedure varies by individual, culture, and experience. The examination completed in harmony through literature on misrepresentation in showing the circumstances identified with unethical behavior, crises, expanded requirements, inversions in the business condition, and an exclusive expectation of living are significant for infringement of trust (Cressey, 1953). Therefore, opportunity, legitimization and weight are the measurements which molded misrepresentation (Cressey, 1953). Cressey's hypothesis (1953) relevance to the current

study emanates from the idea that, fraud occurrence is engineered flanked by 3 perspectives: opportunity, rationalization and pressure, thereby relating to financial risk. Consequently, the management has a responsibility to institute proper authorizations and approvals procedures and mechanisms in place to safeguard against fraud hence clients and stakeholders who rely on them to put in policies and measures to detect and prevent fraud in supermarkets in Nairobi County in Kenya.

Theory of Firm Value Maximization

The theory of firm value maximization was propounded by Freeman (1984). According to the theory, capital market imperfections related to cash flow volatility can curb cost via hedge (Mayers & Smith, 1982). They further noted that, all firms should endeavor to maximize their total market value, and maximizing social welfare as a result. The present value of cost flows of firms profit over the future years measures the firm's value (Modigliani & Miller, 1958). Hedging has the tendency of reducing burden costs of financial distress, aggravated by tax incentives and increase the capacity of the firm to sustain higher debt levels through the generation of higher leverage (Mayer & Smith, 1982; Leland, 1998). However, this implied that corporate hedging appends value to firms' face of progressive cost of tax and bankruptcy costs.

An organizational sustaining choice would be impacted by tax composition (Mackay & Moeller, 2007). Whenever the duration of hedge cost is excessively enormous, firms who lessen the infidelity of its pre-charge worth furrow supporting would alternative to decline the normal assessment obligation and jerks in post-charge value of the firm. At the heart of theory of Modigliani-Miller is insignificance submission that the value of a company's budgetary choices has no effect. Modigliani-Miller (1980) clarifies that for a markets that is functioning well (and impartial assessments) and sane, the market evaluation obligation of the firm's value depends on the payment stream established by the benefits conditions which is determine by speculators who can change the corporate money composition associated with positive or negative obligation measures.

In view of the tenets of this theory, it remains imperative in explaining the necessities of managerial decision making process regarding profit maximization. Due to the stiff competition that is prevailing in the free market of goods and capital, firms are forced to maximize their profit value in shareholders wealth than promoting own best utility maximization which in this case is safeguarding the entities assets. Therefore, the theory is relevant to the present study in that it provide the base for laid down procedures toward the maximization of supermarkets shareholders wealth in the midst of financial threat surrounding the business environment in Nairobi County in Kenya. This theory relates to management efficiency, in order to maximize firm value, financial risk is reduced through the efficiency of managers.

Empirical literature Review

ICT Integration and Financial Risk

The impact of ICT on effective financial management was examined by Andrabi *et al*. (2015) who observed that the use of information technology enhanced effectiveness, performance, reliability, efficiency among other features of contemporary day business functioning. Qualitative research design was utilized. More so, ICT jack up the quality and quantity of renovated financial composition. It was further established that the robustness of the financial systems employed by an organization with the optimization of the efficiency and financial performance in business transactions has been guaranteed through ICT classiness. Consequently, they recommended that, it is about time for corporations to facilitate their business transactions by putting up ICT maintenance facilities. ICT has advanced the manner operations are handled in every finance sector to ensure maximum efficiency. This is the moment to look further than blinds and guarantee that information communication equipment is properly installed as well as maintained. In view of the findings of the study, this study only considered ICT and financial management while the current study was at control environment and the financial and operational risks of supermarkets operating in Nairobi City County.

The analysis of the risk management related to information technology among business organizations was carried out by Kumsuprom et al. (2018) in Thai, where the studies indicated that effective risk management using ICT focusing on the management and operational level activities was crucial in guaranteeing collaboration. Furthermore, the use of COBIT framework and ISO/IEC 17799 standard report of the organization was effective and efficient in putting risks under control. The study recognized the giant stride of the study, this study did not consider the uniqueness of other countries business features in the application of ICT in business and hence, difficulty of such findings application in Nairobi City County of Kenya.

Faris, Syed, and Mohammed (2019) look at the effect of utilization of information technology on the six Gulf Cooperation Council (GCC) nations' financial progress indices between 2000 through 2016. The findings are presented using 2 key ICT factors: permanent broadband as well as Online services as substitutes for ICT, and home loan to the business sectors as a proportion of Income as well as broad money supply/GDP as 2 substitutes for the finance progress indicator. Fixed effects assessments were utilized in this approach, as well as the findings reveal that a rise in fixed bandwidth has a quantitatively substantial and favorable impact on both financial progress indicators. The research's key recommendation is that Nations must make steps to create a comprehensive integrated data network to aid in the development of productive major industries. The study rested on financial success, the study will be rested on financial risk. The study used fixed effects evaluation method, this study used descriptive analysis instead.

Management Efficiency and Financial Risk Mitigation Efficiency

Poletti- Hughes and Ozkan (2014) explains that management efficiency level is reflected in the level of operating expenses, with a lower level of operating expenses being an indicator of higher level of management efficiency, and therefore higher profitability and value of the firm. Researchers demonstrate that economically challenged enterprises with managers are greater prone to be bankrupt versus broadly owned companies, with the likelihood of failure being higher if managers are community or banking entities, utilizing a dataset of 484 UK companies, 81 of which declared for financial crisis. Similarly, the level of employee motivation, extent of deterrence and detection of fraud, strength of the internal control systems, management culture, consistency and perception in the market are used as a measure. The study considered management efficiency levels in operating expenses which remains outside the scope of the present study as it considered control environment in the supermarkets to address financial risk in Nairobi County in Kenya.

Matayo and Muturi, (2018) studied the effect of financial and operational risk on financial performance of large scale supermarkets in Nairobi County. The researcher implemented a quantitative method and utilized a descriptive study methodology. The survey's key demographic included 13 substantial stores registered with Nairobi's district council. The study used selection as a population of Nairobi County's full big stores. Secondary data used for the research were gathered via collecting information papers completed out by accounting professionals from several Nairobi District big stores. With the help of SPSS Version 23, the gathered Information was examined utilizing description and inferential analysis. Findings revealed market and operational risks had an appreciable effect on Kenya's large supermarkets financial performance. Consequently they submitted that, the managers of large supermarkets should continually aim at minimizing the financial and operational risks through effective and efficient management of inventory, cutting down on idle capacity and employees as well as investing in the most current technologies which stimulate innovation across the management of the supermarkets. This includes interchange of electronic data and eventually the management of the financial and market risk to a low level. Despite the scope of the study on supermarkets in Kenya, the study only focused on big supermarkets whereas this current study focused on all categories of supermarkets in Nairobi, Kenya.

Physical Controls and Financial Risk Mitigation Efficiency

Dan and Richard (2013) concentrate on physical security: the feeble connection in inward control configuration set up that, while physical-get to boundaries help keeps guilty parties from accessing the ensured resources, the method of reasoning of alert frameworks is to distinguish a breech. Moreover, noticeable virtual cameras and redistribution signals that read possible

assailants of the nearness of caution frameworks and checking may fill in as an impediment to assaults. Thus, it isn't just imperative to have working alert frameworks, yet to likewise tell the open that the environment is safe. They likewise discovered that, a vital segment of whichever physical control diagram is preparing and checking representatives to respond to dangers to the business security apparatus. They supplementary settled that, notwithstanding of whether the sum of the physical control systems are operational properly, it is believable so as to breeches are permissible by representatives who have not been accurately equipped or who are remiss in the presentation of safety techniques. The study focused on physical security of business environment without taking into account how this security affects supermarket's financial risk in Nairobi County, Kenya.

Seider and Dan (2014) work entitled, Sarbanes-Oxley data innovation consistence review of a redistributes SAP-Microsoft framework pro a forte maker featured that, security of benefits have to be intended to warrant the entrance to resources is restricted to approved people in order to ensure that no advantage is taken without prior notice. They advance presentation that, as the evaluation of the advantage and the threat of adversity builds, the advancement of the substantial entrance reins have to likewise increment. This can without much of a stretch be found in banks where gracefully storerooms might be made sure about with just bolts on door handles while huge reserves of money are made sure about in vaults with time locks. Ultimately they suggested that, locks ought to experience ordinary assessment and support. The study only considered Microsoft and SAP frameworks in businesses but the present study focused on control environment and supermarkets financial threats in Nairobi County, Kenya.

Authorization & Approval of Transactions and Financial Risks Mitigation Efficiency

Wambua, Okibo, Nyang'au and Ondieki (2015) goal was to explore the effect of stocking storage methods on the level of profitability of the Seventh Day Adventist Organization. The particular goal of this study was to see how stock storing mechanisms affected the financial success of Adventist Book Centers. In order to conduct this research, the researchers employed a descriptive methodological approach. At HHES, the targeted audience comprised 216 personnel, with a random sample of 30percent of the population of interest, or 64 workers. Since the demographic is varied, a stratified random sampling approach was used. The collected data were examined using regression and correlations in the statistical program for social science (SPSS). Quantitative results were then used to display the information. At the confidence threshold of 0.05, the statistical evidence demonstrated a strong substantial association among profitability and stock storage mechanisms. They also discovered that stock storage methods, featuring a beta value of 0.311, provided a considerable impact on productivity. According to the findings, ABC owners/managers use excellent stock storage facilities as a strategy to improve its profitability as well as the overall quality of the company. In their investigation, observed that there ought to be an arrangement of assessments confirming the documented things contrary to the physical

inventory. The study was conducted on seventh day Adventist organization, but this study was conducted on supermarkets in Nairobi City County, Kenya.

Songhor, (2018) aim of the research was to see how debt financing affected finance struggles for Kenyan companies registered on the Nairobi Securities Exchange. The investigation adopted a descriptive survey methodology as the study approach, with secondary data gathering methodologies used to get information from all these companies' certified reported accounting records for the years 2013 to 2017. A number of respondents of 24 enterprises were received out of 37 non-financial businesses registered on the NSE. Altman's Z score was employed in establishing the companies' fiscal instability. The determination coefficient (R squared) score of the multiple regression analysis used was 58.7%, indicating that the strategy was capable to forecast the dependent parameter (finance difficulty) to a threshold of 58.7%. The study revealed that debt financing has the possibility of predicting financial distress to the tune of 58.7%. The null hypothesis was rejected on the basis of the F statistic obtained through the use of the ANOVA table which exceeded the critical value of F statistic. The study found out that there was a remarkable negative impact caused by the debt financing to the financial distress experienced by the firms. In addition, the financial leverage and financial distress exhibited a negative correlation while productivity, liquidity, utilization of assets and the solvency both of which correlated positively with the financial distress experienced by financial organizations. Despite the study in Nairobi, the study was only focused on debt financing and financial distress whereas the current study focused on environmental control of supermarkets in Nairobi County in Kenya.

Figure 1: Conceptual framework

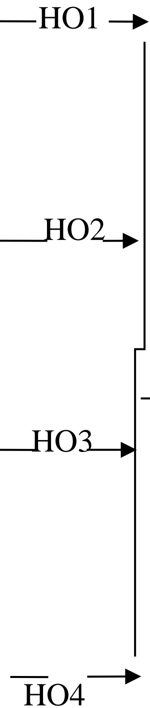
Independent Variables

ICT integration
- Adoption of IT based transactions of internal processes
- Risks on IT models (Online shopping)
- Automated Machines

Management Efficiency
- Management of resources
- Administrative Policies assessment

Physical control of assets
- Human-Based access controls and regulations
- Adequacy Alarms and CCTV systems controls
- Monitoring systems

Authorization & Approvals
- Segregation of duties assessment
- Level of staff discretion
- Staff rotation policies assessment
- Roles and duties duplication



Dependent Variable

Financial Risk Mitigation Efficiency
- Income Levels
- Leverage levels

Research Design

Descriptive research design was adopted. Descriptive research design is considered most suitable for the proposed research in that, it accounts for quantitative approach coupled with non-experimental proportional design that indicates the track, extent, enormity and vigor of the association flanked by the study variables which were considered explanatory and dependent in nature (Mugenda & Mugenda, 2013). This research design was deemed appropriate because it gave an accurate description of the study variables.

Target Population

The study exclusively targeted branch managers/heads of the 66 supermarkets chains in Kenya's Nairobi City County.

Sampling Design

For the purpose of the present study, 66 respondents were employed. These comprised the total population investigated due to its small and manageable size. The study was based on purposive sampling. The choice of using the whole population (managers) is due to the inclusion criteria which align the features of all elements of the population to be investigated

based on certain characteristics. Therefore, all 66 supermarkets chains in Nairobi County, Kenya were covered.

Data Collection Instruments

The study used primary data where structured questionnaire was adopted as the primary tool of collecting data.

Data Analysis and presentation

Tools of data assessment included inferential and descriptive analytical procedures with aid of SPSS statistical software. Data gathered through the use of questionnaire was coded and analyzed. Inferential analysis included correlation and regression analysis. Findings were presented in tables and figures as well. The level of association between two or more variables was determined by use of correlations of statistics evaluating method (Levin & Rubin, 1998). Before performing an inferential analysis of using multilinear regression, Pearson correlation was conducted so as to determine the strength and direction of the relationships between the variables. This is to show the degree of association between the independent variables as well as the dependent variable to ensure the creation of a reliable multiple prediction models which shows a non-existence association where the correlation value is 0.

Empirical Model

Following from the conceptual construction, financial risk mitigation efficiency during Covid-19 (FR) is affected by control environment of supermarkets in Nairobi City County of Kenya whose selected components are; ICT integration (ICT); Management Efficiency (ME); Physical Controls (PC) and Authorization & Approval (AA). Therefore, the functional form of the model is expressed as:

$$Z = \beta0 + \beta1E1 + \beta2C2 + \beta3K3 + \beta4L4 + \varepsilon$$

Where:

Z = Financial Risk

β0 = Fixed

β1 – β4= coefficient

E1 = ICT integration (ICT);

C2= Management Efficiency (ME);

K3= Physical Controls (PC)

L4= Authorization & Approval (AA)

B0, β1, β2, β3, M4=Regression model coefficients.

ε = Error Term.

The effect of control environment and financial risk of supermarkets was tested by the model to model the cause-effect relationships among the variables, ANOVA (F) statistic, R-square statistic and beta or coefficients of the regression were appraised using the p- values measured at .05 level of significance.

RESEARCH FINDINGS AND DISCUSSIONS

Descriptive Statistics

Table 1: ICT Integration (ICTI) and Financial Risk Mitigation Efficiency

CODE	ICT Integration (ICTI)	N	Mean	Std. Deviation
ICTI 1	The information communication technology adopted during the pandemic by the entity has greatly improved efficiency of internal processes	59	2.61	1.352
ICTI 2	Specifically, technology based transactions emanating from ICT integration has significantly reduced errors and fraud related cases during the pandemic and overtime	59	2.47	1.223
ICTI 3	The online ICT shopping integration instituted by the entity has been great success especially during the pandemic and after in relation to risk mitigation and improved operation efficiency	59	2.25	1.154
ICTI 4	ICT Integration significantly reduced the cost of transactions per unit and increased the breadth and access to the customers during and after the COVID-19 pandemic	59	2.25	1.421
ICTI 5	ICT Integration in the organization has brought about a more effective model and approaches for handling client information (CRM).	59	2.07	1.201
ICTI 6	ICT adoption has brought about the opportunity of branching into business venture and more effective instruments for regulating internal operations efficiency during and after COVID-19	59	2.31	1.263
Grand Average		59	2.327	1.269

Source: Research data (2022)

The findings of the study on the ICT integration as a significant factor affecting financial risk mitigation efficiency in a case of a supermarket are consistent with those documented by Patterson (2015) who found that information technology usage in risk management, data advancement proceeded the advance and give associations more and better capacities in distinguishing, gathering, sorting out, breaking down, and overseeing information in South Africa. Further, the study by Kumsuprom *et al*. (2018) in Thai made similar findings where the study indicated that effective risk management using ICT focusing on the management and operational level activities was crucial in guaranteeing collaboration. Finally, the link between ICT integration and financial risk management found in the present study concurs with those of Faris, Syed, and Mohammed (2019) whose findings presented using 2 key ICT factors: permanent broadband as well as online services as substitutes for ICT, and home loan

to the business sectors as a proportion of Income as well as broad money supply/GDP as 2 substitutes for the finance progress indicator.

Table 2: Management Efficiency (ME) and Financial Risk Mitigation Efficiency

CODE	Management Efficiency (ME)	N	Mean	Std. Deviation
ME 1	The management of the organization has instituted an appeal process in place in which, if the employee disagrees with the appraisal.	59	2.31	1.263
ME 2	The management has separated the duties authorizations and approvals to different persons hence mitigating against fraud especially during the pandemic	59	2.37	1.299
ME 3	Here, performance Standards are consistent during the pandemic across the organization and equity principle upheld as per the corporate policies & regulations	59	2.27	1.257
ME 4	There is proper coordination of activities during COVID-19 by management	59	2.34	1.266
ME 5	There is effective level of supervision by managers especially during the pandemic	59	2.56	1.022
ME 6	In this organization, managers are held accountable for doing effective appraisals.	59	2.42	1.262
Grand Average		59	2.378	1.228

Source: Research data (2022)

On the influence of management efficiency on the financial risk mitigation, the study found that management efficiency has a strong influence on the financial risk mitigation. Other studies had similar findings. For instance, Wright and Stigliani (2013) found that management reputation and the policies adopted by the management to run the company and to minimize bank financial distress will affect how signals of a firm distress will be handled. Further, Poletti- Hughes and Ozkan (2014) found that management efficiency level as reflected in the level of operating expenses, with a lower level of operating expenses being an indicator of higher level of management efficiency, and therefore higher profitability and value of the firm. Also, Matayo and Muturi, (2018) found that market and operational risks had an appreciable effect on Kenya's large supermarkets financial performance and thus managers of large supermarkets should continually aim at minimizing the financial and operational risks through effective and efficient management of inventory, cutting down on idle capacity and employees as well as investing in the most current technologies which stimulate innovation across the management of the supermarkets.

Table 3: Physical Control of Assets (PCA) and financial risk mitigation efficiency

CODE	Physical Control of Assets (PCA)	N	Mean	Std. Deviation
PCA 1	Security system installed, do identify and safeguard institutional assets effectively especially during COVID-19	59	2.54	1.222
PCA 2	Astonishment cash checks are generally shown to alleviate against instances of swarming and lading of cash	59	2.32	1.224
PCA 3	All resources obtained are calculated and scrutinized preceding to admittance on pantry/inventory records during the pandemic	59	2.56	1.173
PCA 4	Stock accounts are kept grounded on intermittent physical tallies or a everlasting scheme	59	2.25	1.092
PCA 5	Human-Based Regulator Actions e.g. check in/out time are excellently established and obeyed to during COVID-19	59	2.90	0.995
PCA 6	Alarms and CCTV systems are properly mounted and function effectually in abetting physical controls of all resource in the unit	59	2.63	1.015
Grand Average		59	2.533	1.120

Source: Research data (2022)

The link between physical control of assets and financial risk mitigation documented in the present study was also found by Dan and Richard (2013) found that noticeable virtual cameras and redistribution signals that read possible assailants of the nearness of caution frameworks and checking may fill in as an impediment to frauds. Further, their study found that notwithstanding of whether the entirety of the physical control systems are functioning properly, it is plausible so as to breeches are permissible by representatives who partake not been properly primed or who are remiss in the presentation of safety techniques. Further, Seider and Dan (2014) found that, as the evaluation of the advantage and the threat of adversity builds, the advancement of the substantial entrance reins have to likewise increment.

Table 4: Transactions Approval/ Authorization (AA) and financial risk mitigation efficiency

Authorization & Approvals (AA)		N	Mean	Std. Deviation
AA 1	In this retail outlet, employees endure obligation based on position held	59	2.17	1.289
AA 2	There is efficacy in validation of bookkeeping booklets	59	2.56	1.086
AA 3	Permission and endorsement of bookkeeping booklets is accurately organized during COVID-19	59	2.44	0.970
AA 4	There are negligible likelihoods of conspiracy amongst countersigners especially during COVID-19	59	2.71	0.811
AA 5	In this institute. Signature/s of approvers of booklets are acknowledged crosswise the corporate unit	59	2.20	0.961
AA 6	All booklets are permitted prior to expenditures	59	2.32	1.196
AA 7	Confirmation processes are well predictable and signified out	59	2.44	1.103
Grand Average		59	2.406	1.059

Source: Research data (2022)

The findings of the present study on the influence of the authorization and approvals on the financial risk mitigation are consistent with the findings of other research studies. For instance, Mwakimasinde, Odhiambo and Byaruhanga (2014) found that in the sugarcane cultivator organizations in Kenya assumed the most persuasive job having a direct and critical effect on the execution of money related operations of sugarcane producers' organizations in Kenya. Further, Wambua, Okibo, Nyang'au and Ondieki (2015) in their study found a strong statistical evidence of association between profitability and stock storage mechanisms. They also discovered that stock storage methods, featuring a beta value of 0.311, provided a considerable impact on productivity. Also, Songhor, (2018) study revealed that debt financing has the possibility of predicting financial distress to the tune of 58.7%. Also, the study found out that there was a remarkable negative impact caused by the debt financing to the financial distress experienced by the firms. In addition, the financial leverage and financial distress exhibited a negative correlation while productivity, liquidity, utilization of assets and the solvency both of which correlated positively with the financial distress experienced by financial organizations.

Correlation Analysis

The study also carried out an analysis to measure the level of correlation between the study variables as presented.

Table 5: Correlation Analysis

		ICT	ME	PCA	AA
ICT	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	59			
ME	Pearson Correlation	.463**	1		
	Sig. (2-tailed)	.000			
	N	59	59		
PCA	Pearson Correlation	.318*	.721**	1	
	Sig. (2-tailed)	.014	.000		
	N	59	59	59	
AA	Pearson Correlation	.576**	.406**	.590**	1
	Sig. (2-tailed)	.000	.001	.000	
	N	59	59	59	59

Source: Research data, (2022)

According to the results tabulated in Table 5, the Pearson's R values for all the relationships between the variables are statistically significant at .05 level. That is, .463, .318, .576 and .590 suggesting that the independent variables were highly positively correlated to the dependent variable.

Inferential Statistics

Multiple regressing analyses was computed to derive the relationship between the variables.

Model Summary

The model summary table gives a report on the strength of the relationship that exists between the model and the dependent variable. The multiple correlation coefficient R is the linear correlation between the model predicted values and the observed values of the dependent variable. Table 6 displays the model summary for the results.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.505a	.255	.198	.885

Source: Research data, (2022)

The information displayed on Table 6 indicates that the four variables tested, ICT Integration (ICTI), Management Efficiency (ME), Physical Control of Assets (PCA) and Authorization and Approvals (AA) explain 25.5% of the variability in the dependent variable, Financial Risk (FR).

Analysis of Variance

The Analysis of Variance (ANOVA) presents the calculations that give information on the levels of variability that exists in the regression model and forms a basis for the tests of significance. The information on the ANOVA table estimates the level of significance of the model as a predictor of the outcome variable. Table 7 displays the ANOVA table for the data collected.

Table 7: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	13.963	4	3.491	4.459	.004a
	Residual	40.704	52	.783		
	Total	54.667	56			

Source: Research data, (2022)

The findings in table 7 indicates that there is a statistically significant relationship between the variables and that the independent variables statistically significantly predict the dependent variable ($p<0.05$). In addition, the F value calculated was 4.459 which was higher than the F critical value of 2.70 at 5%, indicating that the overall model is statistically significant.

Regression Coefficients

The parameter, regression coefficient signifies the amount by which a change in the independent variable must by multiplied to provide the corresponding mean change in the dependent variable. Further, it shows the amount of the dependent variable that changes for every unit change in the independent variable. The results of the regression coefficients were as displayed in table 8.

Table 8: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.963	.426		2.26	.028
ICT Integration	.191	.134	.275	2.42	.004
Management Efficiency	.339	.122	.453	2.77	.008
Physical Control of Assets	.123	.153	.135	3.80	.047
Authorization and Approvals	.733	.238	.705	3.07	.003

Source: Research Data (2022)

The regression model estimated indicated that when the dependent variables tested, ICT Integration (ICTI), Management Efficiency (ME), Physical Control of Assets (PCA) and authorization and Approvals (AA) are at constant zero, the Financial Risk (FR) is at .963. Further, it was established that authorization and Approvals predict 73.3%, management

efficiency predicts 33.9% and ICT Integration predicts 19.1% and Physical Control of Assets control 12.3% of financial risk.

As can be seen in Table 8, ICT Integration (ICTI), Management Efficiency (ME), Physical Control of Assets (PCA) and Authorization and Approvals (AA) are significant predictors of Financial Risk mitigation ($p<.05$). Hence, there was no adequate evidence to reject the null hypotheses. The relationships between the variables were found to be statistically significant at .05 significance level. Based on the relative levels of influence on the dependent variable, the results suggest that the model that links the variables in the study may be expressed as follows;

$$Z = 0.963 + 0.191\ E1 + 0.339\ C2 + 0.123\ K3 + 0.733\ L4 + \varepsilon$$

Where, Y=Financial Risk (FR)

E1= ICT Integration (ICT)

C2= Management Efficiency

K3= Physical Control of Assets (PCA)

L4= Authorization and Approvals

The multiple regression breakdown outcomes displayed that ICT integration is a statistically significant predictor of financial risk mitigation efficiency ($\beta1=0.191$, $p<.05$). The study further found that management efficiency is a statistically significant predictor of financial risk mitigation efficiency ($\beta2=0.339$, $p<.05$). The study further found that physical control of assets is a statistically significant predictor of financial risk mitigation efficiency ($\beta3=0.123$, $p<.05$). it eventually found that there is a substantial association amongst approval and authorization of transactions and financial risk mitigation efficiency ($\beta4=0.733$, ($p<.05$).

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study was to investigate the associated link between control environment and financial risk mitigation efficiency of supermarkets chain during COVID-19 in Nairobi City County, Kenya. Multiple regression analysis indicated that the four variables tested, ICT Integration, management efficiency, physical Control of Assets and authorization and approvals jointly significantly affect financial risk mitigation efficiency in business organizations. When analyzed individually, the different aspects of the control environment have varying influences on the financial risk mitigation efficiency. Information Communication and Technology (ICT) integration, management efficiency, physical control of assets and authorization and approvals of transactions are statistically significant predictors of financial risk mitigation efficiency.

Policy Recommendations

Grounded on the outcomes, recommendations are:

First, business organizations such as supermarkets should invest heavily in information technology integration into theory operations. This can be achieved by automating more

operations to enhance their efficiency and effectiveness. Secondly, business organizations can enhance their financial risk mitigation by enhancing their managerial efficiency to minimize wastes and losses thus enhance the overall business efficiency. Thirdly, business organizations need to enhance their control of physical assets by installing more efficient control and monitoring systems. Finally, business organizations such as banks need to enhance their systems of tracking, approving and authenticating transactions to reduce fraud and enhance transparency.

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