## Influence of Layout Design Strategy on the Performance of Retail Chains in Nairobi Central Business District.

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**Abstract:** Operations strategy offers the organization a limitless framework for creating priorities for how to make the greatest use of the assets at hand through effective operational activities in an effort to gain a competitive edge and accomplish managerial goals. The main objective of this study was to establish the influence of layout design strategy on the performance of retail chains in the Nairobi Central Business District. The study was anchored on the resource dependency theory. The study adopted a descriptive research design and the target population was 34 retail chains within the Nairobi CBD area. The sample population involved 80 managers who were in charge of the retail chains in Nairobi CBD. Selfadministered structured questionnaires were used to collect primary data. Data was analyzed using descriptive and inferential statistics. The study found that layout design strategy has a positive significant influence on the performance of retail chains in the Nairobi Central Business District. This is because an increase in a unit of layout design strategy leads to an improvement of the performance of the retail chains. The study recommended that retail chains should pay meticulous attention to store layout and product positioning. The study also recommended that regular assessments should be conducted to ensure that products are strategically placed for easy customer identification. Implement a data-driven approach to store layout optimization, considering customer traffic patterns and preferences. This can enhance the overall shopping experience and drive higher sales.

Keywords: Layout Design Strategy, Performance of Retail Chains

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#### 1.0. INTRODUCTION

## 1.1 Background of the Study

In the modern business environment, a company's competitive advantage rests heavily on its ability to adapt to various challenges in order to acquire control over costs, improve product quality, and provide superior customer service. According to Schmidt et al. (2017), one very compelling explanation for this is that competition is now pursued between or across supply ties



and is no longer restricted to merely between firms. Presently, supply chain management practices that combine data streams, item and service streams, and coordination and payment streams are changing how businesses distribute goods, market them, and provide services, which makes growing a benefit for customers (Ali & Haseeb, 2019). As a technique to enhance the operations of supermarkets, computer-based technologies have been adopted since the invention of computers. Adopting computer-based technology was initially done to streamline daily tasks in supermarkets including customer billing and stock record management. Using computerbased technology, supermarkets today seek to get a competitive edge over their rivals (Li, 2011). Customers routinely want for things to be delivered more quickly, on schedule, and without damage; this may be done by properly coordinating efforts by integrating frameworks and procedures to create teamwork.

Operations strategy is resource-based, regardless of the market, planning, or customer approach. According to Teller et al. (2016), operations strategy offers the organization a limitless framework for creating priorities for how to make the greatest use of the assets at hand through effective operational activities in an effort to gain a competitive edge and accomplish managerial goals. Operational strategy can be divided into decision-making for structures and infrastructure (Sarkis & Beske-Janssen, 2019). The supply network, facilities, capacities, and process technologies are all taken into consideration while making structure decisions. Planning, controlling, quantity, human resources, new product development, and performance metrics all play a role in infrastructure decisions. In the literature, authors use different types of measures and metrics to assess the company's performance in the retail businesses, with some addressing organizational performance (Wijetunge, 2017) and others on operational performance (Tatoglu et al., 2016). Organizational performance focuses on what a company does in order to accomplish its financial and non-financial goals, for example, market share and innovation (Mafini & Loury-Okoumba, 2018). In order to improve efficiency, a company needs be able to operate within the established parameters of each of its activities and processes (Prajogo et al., 2012). This is referred to as operational performance.

## 1.2 Statement of the Problem

The retail market industry is one of Kenya's fastest-growing sectors. Kenya's overall retail sales are anticipated to increase from 260 billion Kshs in 2021 to 275 billion Ksh in 2022. (Kenya National Bureau of Statistics, 2022). In 2021, the share of e-commerce was \$1,7 billion. This highlights the robust underlying economic growth, population increase, rising disposable income, and quick construction of an organized retail infrastructure as significant drivers supporting the growth prediction(Charles, Ndolo, & Odari, 2023). In response to rising market demand, the industry is anticipated to expand by 7 to 7.5 percent per year (KPMG, 2022). The retail sector accounts for 7 percent of Kenya's GDP and provides the most employment opportunities, followed by education, land transport, and building construction. The susceptibility of retail chains to disturbances, financial mismanagement, inadequate decisionmaking, operational inefficiencies, and governance issues has led to closures, notably Nakumatt Holdings, emphasizing the need for resilient and adaptable strategies. Chesula and Nkobe (2018) note that the retail sector, contributing 7% to Kenya's GDP, lacks the resilience necessary for effective adaptation to disruptions, resulting in insolvency and liquidation for some players. This research is prompted by a critical knowledge gap regarding the role of operational management, particularly the influence of layout design strategy, in enhancing the resilience, reliability, and



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performance of retail chains in Nairobi's central business district. As the retail industry faces challenges and disruptions, understanding how layout design strategies contribute to strategic fit and competitive advantage becomes imperative for sustaining the growth of retail chains in a dynamic market environment.

## 1.3 Objective of the Study

The objective of the study was to determine the influence of layout design strategy on the performance of retail chains in Nairobi Central Business District.

## 1.4 Research Hypothesis

H<sub>01</sub>: There is no statistically significant influence of layout design strategy on the performance of retail chains in Nairobi Central Business District.

#### 2.0 LITERATURE REVIEW

#### 2.1Theoretical Framework

## 2.1.1 Resource Dependency Theory (RDT)

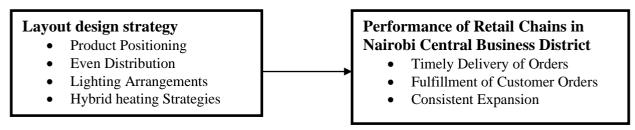
Pfeffer (1981) introduced Resource Dependency Theory (RDT), a theoretical framework aimed at helping organizations maximize their strength in trade and create intra-organizational relationships. RDT posits that relationships between companies are based on relational power rooted in the exchange of resources. The theory suggests that businesses are compelled to rely on others due to the scarcity of key resources. The relationship between resource dependency theory (RDT) to business relationships acknowledges that one of the widely accepted explanations for businesses forming partnerships is RDT. According to Glover et al. (2014), businesses develop relationships to manage interdependence with input sources, absorb significant competitors, and diversify operations. This is essentially why organizations engage in mergers and acquisitions. Robinson and Hsieh (2016) further contribute to the understanding of organizational behavior in relation to resource-related challenges. They explain that organizations make decisions based on management strategies influenced by internal and external agents who control vital resources. The Resource Dependency Theory (RDT), then draws a parallel between RDT and the study of the influence of layout design strategy on the performance of retail chains. It asserts that layout design is a critical resource in the operations of a retail chain. This implies that retail chains make decisions and take actions based on how they depend on layout design to meet their performance expectations. The significance of layout design as a key resource is emphasized, indicating that the retail chain's decisions and actions are intricately tied to how it depends on layout design to achieve its performance objectives. In essence, the provided theoretical framework suggests that the Resource Dependency Theory

In essence, the provided theoretical framework suggests that the Resource Dependency Theory is crucial for understanding why organizations, including retail chains, form relationships and engage in certain strategies. In the case of retail chains, layout design is identified as a pivotal resource, and decisions related to layout design are seen as integral to achieving performance expectations. This theoretical foundation provides a lens through which to examine and comprehend the influence of layout design strategy on the performance of retail chains in the Nairobi Central Business District.



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## 2.2 Conceptual Framework



## **Independent Variable**

## **Dependent Variable**

## 2.3 Empirical review of Layout Design Strategy

Harry and Schroeder (2006) agreed that layout design strategy is a potent breakthrough business improvement strategy that enables businesses to use straightforward and effective design methods for achieving and maintaining operational excellence. It is a corporate procedure that allows organizations to expressively increase performance by arranging and managing predictable firm processes in a way that decreases resource surplus and maximizes customer satisfaction. If implemented successfully, this plan, which begins with a company strategy and concludes with implementation, will have a major impact on earnings. Over the past century, the nature of office work has evolved from a passive and static occupation to one that is dynamic and flexible. Tensions in office design have been brought on by the evolving nature of office work. The difficulty for contemporary office designers is to design spaces that support how people work and function as enablers rather than disablers of work processes.

In accordance with Simon, & Omar, (2020), an organization is an item that must first be produced in concept. "The idea of a design involves investigation into systems that do not yet exist—either complete new systems or new states of existing systems," according to the definition of design. The structure of an organization is therefore determined by its organizational design in order for it to function properly and effectively. Organization design is a methodical way to coordinating people, procedures, systems, cultures, management, policies, and metrics in order for enterprises to achieve their goals and strategies. The fundamental premise is that there is no one best organizational structure and that different institutions are not equally successful or productive. This illustrates the concept of "contingency thinking," according to which a company should be set up to deal with a specific circumstance that might be brand-new or unheard-before.

Job shop design, according to Land and Gaalman (2016), is a unique organizational type of manufacturing in which machines that perform the same or related tasks are grouped together in a single shop. Due of its ability to adapt to a wide range of diverse product kinds, a work shop is always recommended. Production consists of comparatively small volumes paired with several working cycles and exhibits relatively significant volatility over time. These situations are predominantly common in order-driven small-batch invention. Li (2013) proposed examining the results of setup and handling time inconsistencies for workshops utilizing the Kanban method. In addition to set-up and operating time variability, the research also takes into account



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the order to remain in business, production flow dynamics, and the potential degree of set-up time reduction. It is allowed to construct a functional layout, a mobile layout with backtrack flow, and an organized and remains easily accessible with unidirectional flow in order to compare the layout performances under setup.

#### 3.0 RESEARCH METHODOLOGY

The research design employed a descriptive study approach to assess the perception of the target group regarding the influence of operations management strategies on retail chain performance in Nairobi Central Business District. Descriptive design, emphasizing data over theory, was deemed suitable for this purpose, incorporating both quantitative and qualitative data (Wallace & Sheldon, 2015). The target population comprised management respondents from 34 supermarkets in Nairobi County, employing 100-300 staff, with an average of 23 in management roles per supermarket. The study focused on approximately 800 management-level employees from these supermarkets. A stratified random sampling technique was used to select 80 respondents, ensuring proportional representation from each stratum. Data was collected through structured questionnaires, employing a Likert scale for respondent attitudes. A pilot test, conducted with 10 participants from other retail chains, assessed the tools for clarity and consistency. Validity was ensured through expert evaluation, while reliability was assessed using Cronbach's alpha. Data analysis involved regression analysis, hypothesis testing, and chisquare tests.

## 4.0 DATA ANALYSIS AND INTERPRETATION

## **4.1 Response Rate**

Response rate refers to the extent to which the final data sets includes all sample members and is calculated as the number of respondents with whom interviews are completed (Kothari, 2004). The researcher distributed 80 questionnaires and 77 questionnaires were completed by the respondents representing a 96.25% return rate as shown in Table 4.1. Howe and Peck (2017) consider a response rate of 75% and above appropriate. Therefore, the achieved response rate in the study is sufficient to make valid findings. Table 4.1 below shows a representation of the response rate for this study:

**Table 4. 1 Response Rate** 

| Particulars                      | Frequency | Percentage (%) |
|----------------------------------|-----------|----------------|
| Returned questionnaires          | 77        | 96.25%         |
| Unreturned questionnaires        | 3         | 3.75%          |
| Total distributed questionnaires | 80        | 100.00         |

## **4.2 Descriptive Statistics**

## 4.2.2 Descriptive Statistics for Layout Design Strategy on the Performance of Retail chains

The respondents were questioned on various indicators of Layout Design Strategy on the performance of retail chains. Their responses were rated on a 5 points Likert scale in which they either stated strongly disagree (SD), disagree (D), neutral (N), agree (A) and strongly agree (SA). The results were expressed in percentages as shown in Table 4.2

**Table 4.2: Descriptive Statistics for Location Strategy** 

| Statement                                  | SD | D    | N   | A    | SA   | M    | STD  |
|--|----|------|-----|------|------|------|------|
| Our customers and employees can access our | 0  | 0    | 2.6 | 48.1 | 49.3 | 4.47 | 0.55 |
| location on foot                           |    |      |     |      |      |      |      |
| There is low crime late in our surrounding | 0  | 10.4 | 9.1 | 49.4 | 31.1 | 4.01 | 0.91 |



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| We get the required talent with ease | 0 | 0   | 9.1  | 48.1 | 42.8 | 4.34 | 0.64 |
|--------------------------------------|---|-----|------|------|------|------|------|
| We have low competition in the area  | 0 | 1.3 | 10.4 | 58.4 | 29.9 | 4.17 | 0.66 |

The mean for statements regarding D1: Our customers and employees can access our location on foot was 4.47 with a Standard Deviation of 0.55. The data indicates a high level of agreement among respondents regarding the retail chain's accessibility on foot. Approximately 49.3% strongly agree, 48.1% agree, and a negligible percentage are either neutral or disagree. The mean for statements regarding D2: There is low crime late in our surrounding was 4.01 with a Standard Deviation of 0.91. Respondents generally agree with the retail chain's location having low crime rates in its surrounding area. About 49.4% strongly agree, 31.1% agree, while 10.4% disagree, and 9.1% are neutral. The mean for statements regarding D3: We get the required talent with ease was 4.34. Standard Deviation of 0.64. The findings suggest a high level of agreement among respondents regarding the retail chain's ability to easily acquire the required talent. Approximately 42.8% strongly agree, 48.1% agree, and a negligible percentage are either neutral or disagree. The mean for statements regarding D4: We have low competition in the area was 4.17 with a Standard Deviation of 0.66. The data indicates that respondents agree with the retail chain having low competition in its area. Around 58.4% strongly agree, 29.9% agree, and a small percentage either disagree or are neutral. In summary, the findings suggest that the retail chain is perceived positively in terms of its location strategy. Respondents generally agree that the chain's location is accessible on foot, has low crime rates in the surrounding area, facilitates easy talent acquisition, and faces low competition. The study corroborates to the findings of (Akpan & Uford, 2023) who found out that retail location and its accessibility influences performance of the business. More so, the study resonates with Ghosh and Craig (2013) who stated the crucial role store location plays to retail performance. The study appraised the role store location plays in a firm's competitive strategy.

## 4.2.2 Descriptive Statistics for Performance of Retail Chains

The respondents were questioned on various indicators of performance of retail chains. Their responses were rated on a 5 points Likert scale in which they either stated strongly disagree (SD), disagree (D), neutral (N), agree (A) and strongly agree (SA). The results were expressed in percentages as shown in Table 4.3

**Table 4.3: Descriptive Statistics for Performance of Retail Chains** 

| Statement  | SD  | D   | N    | A    | SA   | M    | STD  |
|--|-----|-----|------|------|------|------|------|
| Order are received and delivered on time                           | 2.6 | 5.2 | 6.5  | 35.1 | 50.6 | 4.26 | 0.98 |
| Customer orders are fulfillment according to customers expectation | 0   | 0   | 10.4 | 31.2 | 58.4 | 4.48 | 0.68 |
| There is minimum loss during inventory handling                    | 0   | 5.2 | 6.5  | 50.6 | 37.7 | 4.21 | 0.78 |
| We maintain low operational cost                                   | 0   | 2.6 | 18.2 | 55.8 | 23.4 | 4.00 | 0.73 |
| We have consistently expanded our retail chains                    | 2.6 | 2.6 | 6.5  | 42.9 | 45.4 | 4.26 | 0.89 |

The mean for statements regarding G1: Orders are received and delivered on time was 4.26 with a Standard Deviation of 0.98. The data indicates a high level of agreement among respondents regarding the retail chain's ability to receive and deliver orders on time. Approximately 50.6% strongly agree, 35.1% agree, and a significant percentage are either neutral, disagree, or strongly disagree. The mean for statements regarding G2: Customer orders are fulfilled according to



customers' expectations was 4.48 with Standard Deviation of 0.68. Respondents strongly agree that the retail chain fulfills customer orders according to customers' expectations. Approximately 58.4% strongly agree, 31.2% agree, and a negligible percentage are either neutral, disagree, or strongly disagree. The mean for statements regarding G3: There is a minimum loss during inventory handling was 4.21 with a Standard Deviation of 0.78. The findings suggest a high level of agreement among respondents regarding the retail chain's ability to minimize loss during inventory handling. Approximately 50.6% strongly agree, 37.7% agree, and a negligible percentage are either neutral, disagree, or strongly disagree. The mean for statements regarding G4: We maintain low operational cost was 4.00 with a Standard Deviation of 0.73. Respondents generally agree that the retail chain maintains low operational costs. About 55.8% strongly agree, 23.4% agree, and a significant percentage are either neutral, disagree, or strongly disagree. The mean for statements regarding G5: We have consistently expanded our retail chains was 4.26 with a Standard Deviation of 0.89. The findings suggest a high level of agreement among respondents regarding the retail chain's consistent expansion. Approximately 45.4% strongly agree, 42.9% agree, and a significant percentage are either neutral, disagree, or strongly disagree. In summary, the findings suggest that the retail chain performs well in various aspects of its operations. Respondents generally agree that orders are received and delivered on time, customer orders are fulfilled as expected, losses during inventory handling are minimized, operational costs are low, and the retail chain has consistently expanded.

## 4.4 Regression Statistics

## Simple Linear Regression on Layout Design Strategy on the performance of retail chains

The model has an R-squared value of 0.733, indicating that approximately 73.3% of the variation in retail chain performance can be explained by layout design strategy. The adjusted Rsquared value, which accounts for the number of predictors in the model, is 0.729. The standard error of the estimate is 0.320.

| Table 4.4: Model Summary for Simple Linear Regression on Layout Design Strategy |                     |                     |      |      |  |  |  |  |  |
|---|---------------------|---------------------|------|------|--|--|--|--|--|
| Model R R Square Adjusted R Std. Error of the Square Estimate                   |                     |                     |      |      |  |  |  |  |  |
| 1   | .856ª               | .733                | .729 | .320 |  |  |  |  |  |
| a. Predicto   | ors: (Constant), la | yout design strateg | gy   |      |  |  |  |  |  |

The analysis of variance (ANOVA) table shows that the regression is statistically significant with an F-statistic of 205.487 and a p-value of 0.000. This suggests that layout design strategy has a significant influence on retail chain performance

| Table 4.5: ANOVA <sup>a</sup> for Layout Design Strategy |                  |                       |       |                |         |                   |  |  |  |  |
|--|------------------|-----------------------|-------|----------------|---------|-------------------|--|--|--|--|
| Model  |                  | Sum of<br>Squares     | df    | Mean<br>Square | F       | Sig.              |  |  |  |  |
| 1  | Regression       | 21.103                | 1     | 21.103         | 205.487 | .000 <sup>b</sup> |  |  |  |  |
|  | Residual         | 7.702                 | 75    | .103           |         |                   |  |  |  |  |
|  | Total            | 28.805                | 76    |                |         |                   |  |  |  |  |
| a. Dependent Variable: Retail chain performance          |                  |                       |       |                |         |                   |  |  |  |  |
| b. Predi   | ctors: (Constant | ), layout design stra | ategy |                |         |                   |  |  |  |  |

The coefficient for layout design strategy is 0.939, and it is statistically significant (p = 0.000). The standardized coefficient (Beta) is 0.856. This means that for every one-unit increase in the



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score for layout design strategy, the retail chain performance is expected to increase by 0.939 units, holding other factors constant.

| Table 4.6: Coefficients <sup>a</sup> for l |                           | Layout Design<br>Unstand<br>Coeffi | lardized   | Standardized<br>Coefficients | t      | Sig. |
|--|---------------------------|------------------------------------|------------|------------------------------|--------|------|
|  |                           | В                                  | Std. Error | Beta                         |        |      |
| 1  | (Constant)                | .304                               | .272       |                              | 1.118  | .027 |
|  | layout design<br>strategy | .939                               | .065       | .856                         | 14.335 | .000 |
| a. De                                      | pendent Variable: Ret     | ail chain perforn                  | nance      |                              |        |      |

In summary, the analysis indicates that layout design strategy has a statistically significant and positive influence on retail chain performance, explaining approximately 73.3% of the variation in performance quality management strategy on Retail chain performance

## 4.5 Hypothesis Testing

The test of hypothesis was conducted using the Ordinary Least Square Regression. The acceptance/rejection criteria was that, reject the null hypothesis if the p-value is less than the convectional 0.05. Fail to reject the null hypothesis if the p-value is higher than the convectional 0.05.

# $H_{o1}$ : There is no statistically significant influence of layout design strategy on performance of retail chains in Nairobi Central District.

The null hypothesis was that there is no statistically significant influence of layout design strategy on performance of retail chains in Nairobi Central District. Results in Table below indicates that p-value (0.000) was less than the convectional p-value (p=0.05). This demonstrates that operations management strategy has a significant effect on performance of retail chains in Nairobi Central District. Otherwise put, the role of layout design strategy practices in determining performance of retail chains in Nairobi Central District cannot be ignored. In conclusion, we reject the null hypothesis  $H_{o2}$ : that there is no statistically significant influence of operations management strategy on performance of retail chains in Nairobi Central Business District.

## 5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Summary of the Study

The analysis revealed that layout design strategies significantly impact retail chain performance. An increase in the score for layout design strategy by one unit is associated with an expected increase in retail chain performance by 0.939 units. This finding underscores the importance of appropriate product positioning and traffic distribution in retail stores. The model accounted for approximately 73.3% of the variation in retail chain performance, indicating a robust relationship. In summary, the overall retail chain performance is influenced by various factors, including operations management strategies, layout design strategies, quality management strategies, location strategies, procurement management strategies, and inventory management. These factors collectively explain approximately 75.9% of the variation in retail chain performance. Effective strategies and management practices in these areas are essential for optimizing retail chain performance and competitiveness in the market.



## **5.2 Conclusions of the Study**

The study concludes that layout design strategies have a significant positive impact on retail chain performance. This underscores the importance of careful product positioning and traffic distribution within retail stores. Retail chains should invest in optimizing store layouts to facilitate easy product identification and create an enjoyable shopping experience for customers. These strategies contribute significantly to improving overall performance and customer satisfaction.

## 5.3 Recommendation of the Study

The study recommended that retail chains should pay meticulous attention to store layout and product positioning. They should also conduct regular assessments to ensure that products are strategically placed for easy customer identification. The retail chains should implement a datadriven approach to store layout optimization, considering customer traffic patterns and preferences. This can enhance the overall shopping experience and drive higher sales.

## **5.4 Areas for Further Research**

The scope of the investigation was restricted to supermarkets in Nairobi CBD. To be able to generalize findings about the Kenyan retail market, it will be important to do additional research that takes into account other retail supermarkets in other significant cities including Mombasa, Eldoret, and Kisumu. In this manner, the issue that has been persisting among the retail players can be remedied. The study also focused on layout design strategies, but it did not devote much time to the environment in which retail outlets operate, despite the fact that this environment is just as vital to an organization's ability to survive and thrive as competitive strategies are. It is proposed that research be conducted on the relationship between layout design strategies practices and the organizational performance of retail supermarkets, with the operational environment serving as a moderating element in the study. It is possible to do an investigation of the same nature, but with the addition of additional variables.

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