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# Moderating Role of Supply Chain Performance in the Relationship Between Inventory Management Practices and Operational Performance of Public Hospitals in Kenya: Evidence from Siaya County

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## ABSTRACT

Kenyan public hospitals face persistent operational performance challenges arising from medicine stock-outs, replenishment delays, and service delivery inefficiencies linked to weaknesses in inventory management and underperforming public healthcare supply chains. This study examined the moderating role of supply chain performance on the relationship between inventory management practices and operational performance of public hospitals in Kenya, using evidence from Siaya County. Inventory management practices were operationalized through Just-in-Time (JIT) replenishment, Inventory Categorization, and Demand Forecasting, while supply chain performance captured supplier responsiveness, delivery reliability, and procurement coordination. The study was anchored on the Resource-Based View and Network Perspective Theory, which explain how internal inventory capabilities and inter-organizational supply chain relationships jointly influence organizational performance. A cross-sectional survey design was adopted. From a target population of 106 hospital personnel, a sample of 84 respondents was selected using the Yamane formula, with stratified proportionate and simple random sampling techniques applied. Primary data were collected using structured questionnaires and interview guides. Reliability was confirmed using Cronbach's alpha ($\alpha \geq 0.70$), and validity was established through expert evaluation. Descriptive statistics summarized the data, while hierarchical regression analysis tested direct and moderating effects. Results revealed that inventory management practices had a positive and statistically significant effect on operational performance (F-statistics (1, 79) was 12.631, $p < 0.002$). Further, supply chain performance significantly moderated this relationship, such that hospitals with stronger supplier responsiveness and delivery reliability experienced greater operational gains from effective inventory management. The study concludes that improving supply chain performance strengthens the impact of inventory management practices on hospital operational outcomes, including medicine availability, reduced stock-outs, and service delivery efficiency. It recommends that public healthcare systems strengthen supplier integration, procurement coordination, and replenishment reliability to enhance the effectiveness of inventory management and optimize hospital performance.

**Keywords:** Supply Chain Performance, Inventory Management, Operational Performance

## INTRODUCTION

Globally, healthcare institutions prioritize operational efficiency and effective service delivery as core performance indicators (Isaksson & Seifert, 2013). Public hospitals operate continuously and therefore depend on reliable availability of medicines and medical supplies to sustain service delivery. Achieving such reliability requires not only accurate Demand Forecasting and appropriate Inventory Categorization but also timely replenishment through responsive and well-coordinated supply chains. Where inventory management practices

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are weak and supply chain systems are underperforming, hospitals experience stock-outs, excess inventory, and service disruptions that compromise operational outcomes (Stevenson, 2010).

Inventory management practices such as Just-in-Time (JIT) replenishment, Inventory Categorization, and Demand Forecasting are designed to ensure that essential medical supplies are available when needed while minimizing holding costs and wastage (Lysons & Farrington, 2016). In hospital supply chains, these practices depend heavily on supply chain performance, particularly supplier responsiveness, delivery reliability, and procurement coordination, to translate inventory decisions into actual medicine availability. This aligns with prior evidence showing that effective information and material flows significantly enhance supply chain performance and reduce operational lead times in project and service environments (Abuya et al., 2016a, 2016b). When supply chain performance is low, even well-designed inventory practices may fail to deliver expected operational improvements.

In Kenya, public hospitals face persistent challenges related to delayed procurement cycles, unreliable suppliers, fragmented distribution systems, and bureaucratic requisition procedures, all of which weaken both inventory management effectiveness and supply chain performance. These challenges frequently result in medicine shortages, delayed treatment, and service inefficiencies. Evidence from the Ministry of Health indicates that a substantial proportion of adverse health outcomes in counties such as Siaya are associated with delayed or unavailable essential medicines. Such inefficiencies highlight systemic weaknesses in inventory management and public healthcare supply chain performance within county health systems.

Operational performance refers to the extent to which an organization delivers services efficiently, reliably, and in a timely manner relative to established standards (Neely, 2005). In hospital contexts, operational outcomes include medicine availability, timely service delivery, reduced patient waiting time, efficient patient flow, and effective utilization of medical resources. Weak inventory management and poor supply chain performance undermine these outcomes by disrupting service continuity and increasing operational costs.

Theoretical grounding for this study is provided by the Resource-Based View (RBV) and Network Perspective Theory. RBV conceptualizes organizations as bundles of resources and capabilities that drive performance (Wernerfelt, 1984). In hospital systems, inventory management capabilities, manifested through effective forecasting, categorization, and JIT replenishment—constitute strategic resources that enhance operational efficiency. Complementing RBV, Network Perspective Theory emphasizes the role of relationships among interconnected actors such as hospitals, suppliers, distributors, and government agencies (Wasserman & Faust, 2014). From this perspective, supply chain performance reflects the quality of these inter-organizational relationships and coordination mechanisms that enable inventory practices to influence operational outcomes.

Empirical evidence across sectors demonstrates that effective inventory management improves operational performance through cost reduction, improved availability, and enhanced responsiveness. In healthcare systems, inventory practices such as JIT and Demand Forecasting have been associated with improved medicine availability and service delivery efficiency. However, limited empirical evidence exists on how supply chain performance conditions or moderates the relationship between inventory management practices and operational performance in Kenyan public hospitals. Against this backdrop, the present study adopts a supply chain performance perspective to examine the moderating role of supply chain performance in the relationship between inventory management practices and operational performance of public hospitals in Kenya, with evidence from Siaya County.

**Statement of the Problem**

Public hospitals operate continuously and must maintain reliable availability of essential medicines to ensure effective and timely healthcare delivery. Achieving this continuity depends largely on effective inventory management practices, such as Demand Forecasting, Inventory Categorization, and Just-in-Time (JIT) replenishment, supported by well-performing healthcare supply chains. However, many Kenyan public hospitals continue to experience frequent medicine stock-outs, delayed replenishment, and inefficient inventory levels, conditions that undermine operational efficiency and quality of patient care. These inefficiencies are often associated not only with weaknesses in inventory management practices but also with underperforming public

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healthcare supply chains characterized by poor supplier responsiveness, unreliable deliveries, and weak procurement coordination.

Evidence from Siaya County indicates persistent shortages of essential medicines in public hospitals, frequently forcing patients to purchase drugs from private chemists at unaffordable prices. A significant proportion of patients advised to obtain medicines externally fail to do so, leading to delayed treatment and adverse health outcomes. Despite the presence of inventory management systems in public hospitals, operational performance outcomes such as medicine availability and service timeliness remain unsatisfactory. This suggests that the effectiveness of inventory management practices may depend on the level of supply chain performance within the public healthcare system.

Although prior studies have examined inventory management and hospital performance broadly, limited empirical attention has been given to how supply chain performance conditions the relationship between inventory management practices and operational performance in Kenyan public hospitals. In particular, the moderating role of supply chain performance, through supplier responsiveness, delivery reliability, and procurement coordination, remains insufficiently understood in county health systems such as Siaya. Consequently, empirical evidence explaining how inventory management practices translate into operational outcomes under varying levels of supply chain performance is scarce. This study therefore sought to examine the moderating role of supply chain performance in the relationship between inventory management practices and operational performance of public hospitals in Siaya County, Kenya.

# METHODOLOGY

## Research Design

The study adopted a cross-sectional survey research design. According to Cooper and Schindler (2014), a cross-sectional survey involves collecting data at a single point in time to describe and examine prevailing conditions within a defined population. This design was considered appropriate because it enabled the researcher to obtain a comprehensive snapshot of existing inventory management practices and supply chain performance, and their influence on operational performance across public hospitals in Siaya County. A cross-sectional approach is particularly suitable for efficiently gathering primary data from a relatively large population using a representative sample, while allowing simultaneous assessment of organizational practices, institutional processes, and performance conditions without prolonged follow-up.

By capturing data concurrently from multiple hospitals, the design facilitated comparative analysis and strengthened the reliability of findings regarding prevailing inventory management practices and supply chain performance within the county health system. In alignment with the study objective, the cross-sectional survey provided a practical framework for examining both the direct relationship between inventory management practices and operational performance and the moderating role of supply chain performance in this relationship. The design therefore enabled generation of empirical evidence on how inventory management practices translate into operational outcomes under varying levels of supply chain performance in public hospitals in Siaya County, Kenya.

## Area of study

Siaya County is one of Kenya's 47 devolved units and is located in the former Nyanza region in the western part of the country. Administratively, the county is divided into six sub-counties: Ugenya, Ugunja, Gem, Bondo, Rarieda, and Alego-Usonga. The county was selected as the study site due to its well-documented public health challenges and sustained pressure on public healthcare service delivery systems. Reports from the Ministry of Health (2018) indicate that Siaya has recorded among the highest mortality rates in Kenya, with residents facing an elevated risk of premature death largely associated with the high burden of HIV/AIDS and malaria. Similarly, the World Health Organization (2017) ranked Siaya among the counties with the highest HIV prevalence nationally, second only to Homa Bay County.

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These epidemiological conditions place substantial demand on public hospitals to ensure continuous availability of essential medicines and efficient healthcare delivery. Such demands require effective inventory management practices supported by high-performing healthcare supply chains characterized by responsive suppliers, reliable deliveries, and coordinated procurement processes. However, persistent medicine shortages and supply disruptions reported in the county suggest weaknesses in both inventory management effectiveness and supply chain performance within public hospitals. Consequently, Siaya County provides an appropriate and policy-relevant context for examining how inventory management practices influence operational performance of public hospitals under varying levels of supply chain performance.

**Target Population of the Study**

The study targeted a total population of 106 personnel drawn from key functional departments responsible for inventory management, supply chain operations, and hospital service delivery across six public hospitals in Siaya County. The facilities included Sigomere Sub-County Hospital, Bondo Sub-County Hospital, Malanya Sub-County Hospital, Yala Sub-County Hospital, Madiany Sub-County Hospital, and Siaya County Referral Hospital. The target population comprised staff from procurement, stores, pharmacy, and hospital administration, as these departments play a central role in inventory management practices, such as demand forecasting, inventory categorization, and replenishment, and in maintaining supply chain performance through supplier coordination, delivery management, and procurement processes that influence hospital operational outcomes.

Specifically, the population consisted of 34 administrators, 33 pharmacists, 18 procurement officers, and 21 storekeepers, yielding a total target population of 106 respondents. These cadres were considered appropriate because they are directly involved in managing medical inventory and coordinating supply chain activities that determine medicine availability, service timeliness, and overall operational performance in public hospitals. The distribution of the target population is presented in Table 2.1.

**Table 2.1: Target Population**

| | **Section** | **Ungenya (Sigomere Sub-County Hospital)** | **Ugunja (Malanya Sub-County Hospital)** | **Gem (Yala Sub-County Hospital)** | **Bondo (Bondo Sub-County Hospital)** | **Rarieda (Madiany Sub-County Hospital)** | **Alego-Usonga (Siaya County Referral Hospital)** | **Total** |
|---|---|---|---|---|---|---|---|---|
| 1. | Administration | 05 | 05 | 05 | 05 | 05 | 09 | 34 |
| 2. | Pharmacy | 06 | 04 | 03 | 05 | 04 | 11 | 33 |
| 3. | Procurement | 03 | 03 | 02 | 03 | 02 | 05 | 18 |
| 4. | Stores | 03 | 03 | 03 | 03 | 03 | 06 | 21 |
| **Total** | | | | | | | | **106** |

**Source: Siaya County MoH, (2019)**

**Sample Size and Sampling Procedure**

This section outlines the determination of the study's sample size and describes the sampling procedures employed. The details are presented in the subsections that follow:

**Sample Size**

The sample size is a representative of a large population (Bryman, 2012). Yamane, (1967) formula was used in determining the sample size. The sample size in each stratum was obtained proportionately. In the field the respondents were selected using random sampling.

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According to Yamane, (1967): $n = \frac{N}{\left[1+\left(Ne^2\right)\right]}$ ……Eq.2.1

Where n = is the sample size

N = is the population

e = is the error limit (0.05 on the basis of 95% confidence level)

Therefore, $n = 106 / [1 + 106 (0.05)^2]$

$n = 106/1.265$

$n = 84$

Using a population of 106 staff members in public hospitals in Siaya County and considering an error limit of 5%, a sample size of 84 was used in the study. This sample size was representative enough and was spread in each stratum proportionately as illustrated in Table 2.2.

**Table 2.2: Sample Frame**

| | **Section** | **Population (X)** | **Sample Size X/N x 84** | **Sigomere** | **Malanya** | **Yala** | **Bondo** | **Madiany** | **Siaya County Referral Hospital)** |
|---|---|---|---|---|---|---|---|---|---|
| 1. | Administration | 34 | 27 | 4 | 4 | 4 | 4 | 4 | 7 |
| 2. | Pharmacy | 33 | 26 | 5 | 3 | 2 | 4 | 3 | 9 |
| 3. | Procurement | 18 | 14 | 2 | 2 | 2 | 2 | 2 | 4 |
| 4. | Stores | 21 | 17 | 2 | 2 | 2 | 3 | 3 | 5 |
| **Total** | | **106** | **84** | **13** | **11** | **10** | **13** | **12** | **25** |

Source: Researcher's own conceptualization, (2015)

**Sampling Procedure**

In view of the researcher's inability to reach out to the entire population, and in order to gain the advantage of an in-depth study and effective coverage, Yamane formula was used to establish the sample size from the study population. Stratified proportionate sampling was used to get sample size for each stratum. In the field, respondents were selected using simple random sampling.

**Data Collection Instruments**

Primary data were collected using structured questionnaires and semi-structured interview guides to obtain both quantitative and qualitative information on inventory management practices, supply chain performance, and operational performance in public hospitals in Siaya County.

**Questionnaires**

The questionnaire items were structured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The instrument was designed to capture data on the key study variables and was organized into distinct sections. The preliminary section gathered respondents' demographic and institutional information. Subsequent sections measured inventory management practices, including Just-in-Time (JIT) replenishment, inventory categorization, and demand forecasting. Additional items assessed supply chain performance in terms of supplier responsiveness, delivery reliability, and procurement coordination. The final section captured operational performance indicators, including medicine availability, service timeliness, patient flow efficiency, and effective resource utilization within public hospitals in Siaya County.

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**Interview Guide**

Interviews were conducted with randomly selected respondents from the study sample to complement the information obtained through the questionnaire. This qualitative component enhanced data collection by providing deeper insights and contextual understanding of inventory management practices and supply chain performance within public hospitals in Siaya County. The interviews enabled exploration of institutional processes, supplier coordination mechanisms, and replenishment practices that influence operational performance but may not have been fully captured through structured questionnaire items.

**Data Collection Procedure**

Prior to data collection, the researcher obtained a research permit from the National Commission for Science, Technology and Innovation (NACOSTI). This authorization enabled formal access to the selected public hospitals for field data collection. Structured questionnaires were administered to respondents using a drop-and-pick-later approach at their respective workstations to minimize disruption of routine hospital operations. Follow-up was conducted through telephone communication to remind participants of the agreed collection dates, after which the completed questionnaires were retrieved. In addition, group interviews were conducted with selected categories of staff to complement the survey data and provide contextual insights into inventory management practices and supply chain performance within the hospitals. These discussions explored replenishment processes, supplier coordination, and procurement dynamics that influence operational performance in public healthcare facilities. Upon retrieval, all questionnaires were reviewed to ensure completeness and accuracy of responses before proceeding to data coding and analysis.

**Pilot Testing**

A pilot study was conducted at Kombewa Sub-County Hospital involving staff drawn from the four departments targeted in the main study (procurement, stores, pharmacy, and administration). The pilot exercise aimed to assess the clarity, relevance, and reliability of the research instruments, as well as to estimate the time required to complete the questionnaire and identify any structural or content-related weaknesses. Hill (1998) suggests that between 10% and 30% of the intended sample is adequate for pilot testing in survey research. Consistent with this guideline, approximately 10% of the anticipated respondents were selected for the pilot phase. Accordingly, ten staff members from Kombewa Sub-County Hospital were randomly chosen to participate in the pre-test. Following the pilot exercise, response patterns were examined, participant feedback was evaluated, and preliminary data were analyzed to identify ambiguities, inconsistencies, or measurement gaps, particularly in items assessing inventory management practices and supply chain performance. The insights obtained were subsequently used to refine and strengthen the final data collection instruments prior to the main study to ensure accurate measurement of inventory management, supply chain performance, and operational performance constructs.

**Validity & Reliability Testing**

**Validity Test**

Content validity was used to determine the validity index. The questionnaires were given to the two supply chain management experts to evaluate and rate each item in relation to the objectives as “not relevant” or “relevant” on a scale of the 1-4 such that; 1 = *not relevant*, 2 = *somehow relevant*, 3 = *relevant* and 4 = *very relevant*. Content validity index would then be determined from the supervisors’ agreement scale as K/N, where K being the number of items marked 3 or 4 and N the total number of items assessed.

The rated finding was used to calculate content validity index (CVI) using the formula:

$$CVI = \frac{K}{N} \quad \text{..... Eq.2.2}$$

Where: K = Total number of items in the questionnaire declared valid by both experts; and N = Total number of items in the questionnaire. This was solved as follows:

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$$CVI = \frac{K}{N} = \frac{39}{48} = 0.8125$$

The computed instrument content validity index (CVI) was ε=0.8125 > ε=0.7. The computed CVI was greater than the minimum acceptable index of 0.70 as recommended in the survey studies by Amin, (2005) hence the instrument was valid for the study.

**Reliability Test**

Reliability of the instrument was checked through split-half reliability coefficient test. The items in the questionnaire was divided into; odd items represented by "x" and even items represented by "y". The scores from both halves would then be correlated. Usually, the internal consistency of a measurement scale is assessed by using Cronbach's co-efficient alpha (Cronbach 1951) which was calculated using Flanagan Formula shown in Eq. 2.3.

$$R_t = 2[1 - \frac{\delta_1^{\,2} + \delta_2^{\,2}}{\delta_t^{\,2}}] \quad \text{..... Eq.2.3}$$

Where: $R_t$ = Reliability Coefficient of the Test; $\delta_1$= Standard Deviation (S.D.) of Scores of 1st Half; $\delta_2$= Standard Deviation (S.D.) of Scores of 2nd Half; and $\delta_t$= Standard Deviation (S.D.) of Scores of Whole Tests

To assess internal consistency reliability, questionnaire items corresponding to each study construct were aggregated to form composite scales, upon which Cronbach's alpha coefficients were computed. The resulting reliability coefficients were evaluated against the minimum acceptable threshold of 0.70 recommended for survey research (Nunnally & Bernstein, 1994). While coefficients in the range of 0.50–0.60 may be considered adequate for exploratory studies (Nunnally & Bernstein, 1994), values of 0.70 and above indicate acceptable reliability, and those exceeding 0.80 reflect good reliability (Sekaran, 2003). The reliability results for the study constructs are presented in Tables 2.3a and 2.3b.

**Table 2.3(a) Reliability Statistics**

| Cronbach's Alpha Based on Un-Standardized Items | Cronbach's Alpha Based on Standardized Items | No. of Items |
|---|---|---|
| 0.834 | 0.821 | 48 |

**Source: Survey Data (2019)**

**Table 2.3(b)Reliability Statistics**

| **Factor** | **No. of Items** | **Cronbach's Alpha Based on Un-Standardized Items** | **Cronbach's Alpha Based on Standardized Items** |
|---|---|---|---|
| Background | 03 | 0.987 | 0.983 |
| Inventory Categorization | 08 | 0.863 | 0.854 |
| Demand Forecasting | 08 | 0.915 | 0.902 |
| Just-in-Time | 09 | 0.896 | 0.873 |
| Operational Performance | 08 | 0.819 | 0.805 |
| Supply Chain performance | 12 | 0.887 | 0.872 |
| **Overall** | **48** | **0.834** | **0.821** |

**Source: Survey Data (2019)**

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The overall alpha for the 48 items under investigation had a Cronbach's alpha of 0.834 indicating good internal consistency, while inventory categorization had an acceptable Cronbach's alpha coefficient of 0.863, demand forecasting had a good Cronbach's alpha coefficient of 0.915, Just-in-Time had a good Cronbach's alpha coefficient of 0.896, operational performance had a good Cronbach's alpha coefficient of 0.819 and lastly, supply chain performance had a good Cronbach's alpha coefficient of 0.887. The minimum alpha for the items was 0.819 while the highest alpha was 0.915 both of which conformed to the project by George and Mallery (2003) thus the items formed a scale that had excellent internal consistency reliability.

**Data Analysis**

After data collection, completed questionnaires were reviewed for completeness and accuracy, classified, coded, and entered into a computerized database for analysis. Statistical processing was conducted using the Statistical Package for Social Sciences (SPSS), Version 24, a widely accepted analytical tool with strong data management capability and versatility in performing statistical procedures across datasets of varying sizes (Muijs, 2004).

The study generated both qualitative and quantitative data. Qualitative information obtained from interviews was analyzed using thematic and content analysis to identify recurring themes and contextual insights regarding inventory management practices and supply chain performance within public hospitals. Quantitative data were analyzed using descriptive and inferential statistical techniques. Descriptive analysis employed graphical and numerical summaries, including frequencies, percentages, means, and standard deviations, to describe respondent perceptions and prevailing inventory management and supply chain practices in the hospitals.

Inferential analysis involved correlation and hierarchical regression procedures to examine relationships among inventory management practices, supply chain performance, and operational performance. Correlation analysis determined the direction and strength of associations among the study variables. Hierarchical regression analysis was then used to assess both the direct effect of inventory management practices on operational performance and the moderating effect of supply chain performance on this relationship (Mutai, 2000). Analysis of Variance (ANOVA) was applied to test the overall significance of the regression models, while the significance of individual regression coefficients was examined to determine the extent to which inventory management practices and their interaction with supply chain performance influence operational performance in public hospitals. The study hypothesis guiding this analysis was formulated as follows:

$H_{O1}$: There is no significant statistical moderating effect of supply chain performance on the relationship between inventory management practices and operational performance of public hospitals in Siaya County.

The following regression models to establish the relationship between the study variables guided the study:

**Model 1: $Y= \beta_0+ \beta_1 X_1+e$……Eq.2.4**

Where: Y = Operational Performance; $X_1$ = Inventory Management Practices; e- Error Term; $\beta_0$ -represents the Model Constant; and $\beta_1$ -are Regression Coefficients.

**Model 2: $P \leq \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$……Eq. (2.5)**

where P is operational performance, while $\beta_0$ is the intercept (a constant), $\beta_1$, $\beta_2$ and $\beta_3$ are the slopes associated to the independent variables $X_1$, $X_2$ and $X_3$, while $\varepsilon$ is the error term which is assumed to be independent, identical normally distributed random variable with a zero mean and a constant variance.

**Model 3: $P_{OE} = \beta_0+ \beta_1 X_1 + \beta_2 X_2+ \beta_3 X_3 + \beta_4 X*M + \varepsilon$……Eq. (2.6)**

where *P* is operational performance, M is the moderating effect of supply chain performance while $\beta_0$ is the intercept (a constant), $\beta_1$, $\beta_2$ and $\beta_3$ are the slopes associated to the independent variables $X_1$, $X_2$ and $X_3$, while $\varepsilon$ is the error term which is assumed to be independent, identical normally distributed random variable with a zero mean and a constant variance.

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The regression model assumed independent, identical and normally distributed random variables with a zero mean and a constant variance at 5% significance level.

### Diagnostic Tests for Inferential Statistics

Before conducting inferential procedures, several diagnostic checks were performed to ensure that the dataset met the assumptions required for regression modelling. These diagnostic evaluations covered distributional normality, inter-correlation among predictors, constancy of error variance, and linearity of relationships. The distributional assumption was examined using the Kolmogorov–Smirnov (K–S) statistic within exploratory analysis. This test evaluates whether the observed sample distribution differs significantly from a theoretical normal distribution and is considered suitable for samples exceeding 50 observations. A probability value greater than 0.05 indicates no significant departure from normality. The obtained K–S significance level of 0.55 therefore demonstrated that the data approximated a normal distribution. Potential collinearity among the independent variables was investigated through pairwise correlation coefficients alongside Tolerance and Variance Inflation Factor (VIF) indicators. All correlation probabilities were above 0.05, suggesting that the predictor variables were not significantly interrelated. Correspondingly, the Tolerance and VIF results confirmed that multi-collinearity was not present, indicating that the variables were appropriate for inclusion in the regression model. The assumption of equal error variance was tested using a Breusch–Pagan–type procedure based on the observed R-squared statistic. The resulting probability value of 0.3285 exceeded the 0.05 criterion, implying that the null hypothesis of constant variance could not be rejected. This outcome confirmed homoscedastic residuals, supporting the reliability of the regression estimates. Finally, linearity between predicted and observed values was evaluated through residual scatterplots. The plotted residuals showed no curvature or systematic pattern and were distributed evenly around the zero reference line with relatively uniform dispersion. This distribution indicated that the relationship between the variables was adequately linear and satisfied the regression assumption of linearity.

## FINDING & DISCUSSION

### Descriptive Statistics on Moderating Effect of Supply Chain Performance

Descriptive analysis was done on moderating effect of supply chain performance. The results were summarized in Table 3.1a

**Table 3.1a: Descriptive Statistics on Moderating Effect of Supply Chain Performance**

| **Moderating Effect: Supply Chain Performance and the Relationship between Inventory Management Practices and Operational Performance (Operational Efficiency)** | **Response** | | | | |
|---|---|---|---|---|---|
| | **N** | **% Frequency (Agree)** | **% Frequency (Disagree)** | **Mean** | **Std. Dev** |
| We have an Integrated Supply Chain thus have been able to realize improved operational efficiency in the last two financial years | 80 | 82(66) | 18(14) | 2.015 | 0.324 |
| We have a Flexible Supply Chain thus have been able to realize improved operational efficiency in the last two financial years | 80 | 81(65) | 19(15) | 1.937 | 0.212 |
| Integration of the hospital's supply chain has given a smooth platform for ABC Analysis of Inventory Categorization to help in improving operational efficiency | 80 | 69(55) | 31(25) | 2.926 | 0.311 |

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| | | | | | |
|---|---|---|---|---|---|
| Integration of the hospital's supply chain has given a smooth platform for SOS Analysis of Inventory Categorization to help in improving operational efficiency | 80 | 74(59) | 26(21) | 2.094 | 0.013 |
| Flexibility of the hospital's supply chain has given a smooth platform for ABC Analysis of Inventory Categorization to help in improving operational efficiency | 80 | 66(53) | 34(27) | 2.348 | 0.271 |
| Flexibility of the hospital's supply chain has given a smooth platform for SOS Analysis of Inventory Categorization to help in improving | 80 | 81(65) | 19(15) | 2.563 | 0.211 |
| **AVERAGE** | | **76(61)** | **24(19)** | **2.314** | **0.224** |
| **Moderating Effect: Supply Chain Performance and the Relationship between Inventory Management Practices and Operational Performance (Service Delivery)** | **N** | **% Frequency (Agree)** | **% Frequency (Disagree)** | **Mean** | **Std. Dev** |
| We have an Integrated Supply Chain thus have been able to realize improved operational efficiency in the last two financial years | 80 | 82(66) | 18(14) | 2.015 | 0.324 |
| We have a Flexible Supply Chain thus have been able to realize improved operational efficiency in the last two financial years | 80 | 81(65) | 19(15) | 1.937 | 0.212 |
| Integration of the hospital's supply chain has given a smooth platform for ABC Analysis of Inventory Categorization to help in improving operational efficiency | 80 | 69(55) | 31(25) | 2.926 | 0.311 |
| Integration of the hospital's supply chain has given a smooth platform for SOS Analysis of Inventory Categorization to help in improving operational efficiency | 80 | 74(59) | 26(21) | 2.094 | 0.013 |
| Flexibility of the hospital's supply chain has given a smooth platform for ABC Analysis of Inventory Categorization to help in improving operational efficiency | 80 | 66(53) | 34(27) | 2.348 | 0.271 |
| Flexibility of the hospital's supply chain has given a smooth platform for SOS Analysis of Inventory Categorization to help in improving operational efficiency | 80 | 81(65) | 19(15) | 2.563 | 0.211 |
| **AVERAGE** | | **73(58)** | **27(22)** | **2.056** | **0.181** |

**Source: Survey Data (2019)**

The study sought to investigate the moderating effect of supply chain performance on the relationship between inventory management practices and operational performance of public hospitals in Siaya County. Majority of the respondents believed that supply chain performance would moderate the Relationship between inventory management practices and operational performance with a mean of 2.314 (for operational efficiency) within the range of $1.937 \leq \mu \leq 2.926$ at 76% (S.D=.224) and a mean of 2.056 (for service delivery) within the range of $1.892 \leq \mu \leq 2.246$ at 73% (S.D=.181). These findings support the findings of Jamal et al (2017), Gbadyan et al (2017), Olema (2018) and Okello (2017). Jamal et al (2017) established that supply chain management dimensions had a positive effect on the health care service dlelivery of Jordanian private hospitals. Gbadyan et al (2017) stated that

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hospitals should put in place efficient supply chain management to ensure increased customer satisfaction. Olema (2018) established that supply chain performance had a positive relationship with operational performance. Okello (2017) added that supply chain performance has positive effect on performance of private hospitals.

**Descriptive Statistics on Operational Performance**

Descriptive analysis was done on operational performance. The results were summarized in table 3.1b

**Table 3.1b: Descriptive Statistics for Operational Performance**

| **Operational Performance (Operational Efficiency)** | **N** | **% Frequency (Agree)** | **% Frequency (Disagree)** | **Mean** | **Std. Dev** |
|---|---|---|---|---|---|
| The hospital always handles a large number of out-patient's cases on daily basis | 80 | 55(44) | 45(36) | 2.933 | 1.216 |
| It takes the shortest time possible for patients to go through the treatment process (for out-patient) | 80 | 58(46) | 42(34) | 2.628 | 1.137 |
| For the last two years the hospital has recorded reduction in mortality rates | 80 | 56(57) | 44(43) | 2.917 | 1.313 |
| In-patients cases normally stay in the hospitals for a shorter period before being discharged | 80 | 51(41) | 49(39) | 3.007 | 1.144 |
| **AVERAGE** | | **55(44)** | **21(17)** | **2.871** | **1.203** |
| **Performance in Terms of Service Delivery** | **N** | **% Frequency (Agree)** | **% Frequency (Disagree)** | **Mean** | **Std. Dev** |
| The suggestion box is easily accessible to patients | 80 | 60(48) | 40(32) | 3.726 | 1.321 |
| On average, patients are always satisfied with the hospital services | 80 | 51(41) | 49(39) | 4.238 | 1.421 |
| Action is always taken on feedbacks from the suggestion box | 80 | 76 (61) | 24(19) | 2.416 | 1.232 |
| On average, patients do get the prescribed drugs in the hospital pharmacy | 80 | 87(70) | 13(10) | 2.118 | 1.279 |
| **AVERAGE** | | **69(55)** | **31(25)** | **3.125** | **1.313** |

**Source: Survey Data (2019)**

Table 3.1b shows that majority of Siaya County public hospitals believe that operational performance of public hospitals in Siaya County is good. Specifically, operational efficiency had a mean response of 2.871 within the range of $2.628 \leq \mu \leq 3.007$ at 55% (S.D=1.203). This implies that 55% of the respondents in Siaya County public hospitals do agree that operational efficiency was considerably good. In addition, service delivery was also considerably good at a mean response of 2.522 within the range of $2.118 \leq \mu \leq 2.726$ at 69% (S.D=1.313).

**Inferential Statistics**

Hypothesis stated that there is no significant statistical moderating effect of supply chain performance on the relationship between inventory management practices and operational performance of public hospitals in Siaya County. The moderating effect of supply chain performance on the relationship between inventory management practices and operational performance of public hospitals in Siaya County was investigated through multiple linear regression analysis using the model in equation 3.0. Multiple regression was conducted twice. First, to

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establish the effect of inventory management practices on operational performance of public hospitals in Siaya County as modeled in Eq. (3.0):

$$P \leq \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\text{Eq. (3.0)}$$

where $P$ is operational performance, while $\beta_0$ is the intercept (a constant), $\beta_1$, $\beta_2$ and $\beta_3$ are the slopes associated to the independent variables $X_1$, $X_2$ and $X_3$, while $\varepsilon$ is the error term which is assumed to be independent, identical normally distributed random variable with a zero mean and a constant variance. The results were captured in Table 3.1, Model 1.

Secondly, to establish the moderating effect of supply chain on the relationship between inventory management practices and operational performance of public hospitals in Siaya County as modeled in Eq. (3.1):

$$P_{OE} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X * M + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\text{Eq. (3.1)}$$

where $P$ is operational performance, M is the moderating effect of supply chain performance while $\beta_0$ is the intercept (a constant), $\beta_1$, $\beta_2$ and $\beta_3$ are the slopes associated to the independent variables $X_1$, $X_2$ and $X_3$, while $\varepsilon$ is the error term which is assumed to be independent, identical normally distributed random variable with a zero mean and a constant variance. The results were as shown on Table 3.2, Model 2.

**Table 3.2: Regression Results of Inventory Management Practices and Operational Performance**

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .823[a] | .677 | .663 | .0201 | .823 | 10.854 | 3 | 77 | 0.003 |
| 2 | .895[b] | .801 | .781 | .0227 | .895 | 12.631 | 1 | 76 | 0.002 |

**ANOVA[a]**

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 6.704 | 3 | 2.235 | 10.854 | 0.003[b] |
| | Residual | 29.989 | 77 | .163 | | |
| | Total | 36.693 | 80 | | | |
| 2 | Regression | 7.931 | 4 | 1.983 | 12.631 | 0.002[c] |
| | Residual | 28.762 | 76 | .157 | | |
| | Total | 36.693 | 80 | | | |

**Regression Coefficients**

| Models | | Unstandardized Coefficients | Standardized Coefficients | | | **Sig.** |
|---|---|---|---|---|---|---|
| | | **B** | **Std. Error** | **Beta** | **t** | |
| 1 | (Constant) | 2.732 | 0.518 | | 5.274 | 0.040 |
| | Inventory Categorization Practice | 0.465 | 0.071 | 0.390 | 6.549 | 0.040 |
| | Demand Forecasting practice | 0.536 | 0.031 | 0.415 | 4.430 | 0.030 |
| | Just-in-Time Practice | 0.417 | 0.052 | 0.335 | 5.085 | 0.000 |
| 2 | (Constant) | 2.416 | 0.158 | | 3.144 | 0.031 |
| | Inventory Categorization Practice | 0.497 | 0.080 | 0.417 | 6.213 | 0.004 |
| | Demand Forecasting Practice | 0.586 | 0.101 | 0.485 | 5.802 | 0.003 |
| | Just-in-Time Practice | 0.463 | 0.065 | 0.394 | 7.123 | 0.0004 |
| | Interaction Term (IMP*SCP) | 0.623 | 0.064 | 0.559 | 9.734 | 0.000 |

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a) Dependent Variable: Service Delivery;
b) Predictors: (Constant), Inventory Categorization Practice; Demand Forecasting Practice; Just-in-Time Practice; and Interaction Term (Inventory Management Practices*Supply Chain Performance); and
c) Significance level, p<0.05

**Source: Field Data, (2019*)***

The Model Summary in Table 3.2 gives a correlation coefficient (R) square (.677) and Adjusted R square (.663). Thus, in this model, inventory management practices are predicting 67.7% of the variance in operational performance of public hospitals in Siaya County. This leaves 32.3% of the variation in operational performance of public hospitals in Siaya County being explained by the error-term or other variables other than inventory management practices. This finding also indicated the models goodness of fit as exemplified by the coefficient of determination value of ($R^2$ value) of 0.677 adjusted to of 0.663. With a correlation coefficient-R, of 0.823 being closer to 1, there is strong positive association between inventory management practices and Operational performance and so any improvement in terms of sound inventory management practices would definitely improve performance of Public hospitals in Siaya County. The standard error of the estimate, of 0.0201 being a measure of standard deviation around the fitted line suggests that about 95% of the prediction error in operational performance of public hospitals in Siaya County is less than ±1.96 (0.0201) = 0.039. This affirms the position by Hani et al (2013) who reiterated that efficient management of inventory resources and collaboration with other departments are important factors in improving service delivery and customer services.

The ANOVA table 3.2 shows that the computed F statistic was 10.854, with an observed significance level (*p*-value) of 0.003 which was also less than p<0. 05. This shows that the significance can be extended to 99.99% confidence interval. The independence of residuals in this model was analysed using Durbin-Watson statistic. Considering a Durbin-Watson statistic of 1.708, it was deduced that there was no serial correlation of the residuals as the values were within the accepted threshold of between 1.5 to 2.5 as was recommended by Hayes, (2013).

Hypothesis 4 stated that there is no significant statistical effect of inventory management practices on operational performance of public hospitals in Siaya County. The computed F-statistics (3, 77) was 10.854 and the *p*-value for the model was ($p \leq 0.003$). The *p*-value obtained ($p \leq 0.003$), being much less than the significance level of 0.05 indicates that the confidence level can be extended to 99%. The findings indicate that there is a significant statistical effect of inventory management practices on operational performance (*p<.05).* The obtained was $p \leq$ 0.003 was much less than the level of significance of 0.05. The null hypothesis that there is no significant statistical effect of inventory management practices on operational performance of public hospitals in Siaya County was therefore rejected and the alternative hypothesis that there is a statistically significant statistical effect of inventory management practices on operational performance of public hospitals in Siaya County was instead accepted ($F=10.854$, $R^2 = 0.677$, Sig $\leq 0.003$ at $\varepsilon \leq 0.05$). The relationship was thus modeled as in equation 3.2:

$$P \leq 2.732 + 0.465IC + 0.536DF + 0.417JIT \quad \text{.....Eq. (3.2)}$$

Drawing from model equation 4.7, when the effects of Demand Forecasting and Just-in-Time practices are kept constant, a one-unit increase in Inventory Categorization would increase operational performances of public hospitals in Siaya County by 0.465 units. Secondly, when the effects of Inventory Categorization practice and Just-in-Time practice are kept constant, a one-unit increase in Demand Forecasting would increase operational performance in Public hospitals in Siaya County by 0.536 units. Lastly, when the effects of Inventory Categorization practice and Demand Forecasting practice are kept constant, a one-unit increase in Just-in-time practices would increase operational performance in public hospitals in Siaya County by 0.417 units. The differential contribution of the independent variables shows that Demand Forecasting (with unstandardized coefficient of $\beta$=0.536) has the highest contribution in increasing the operational performance of public hospitals in Siaya County. This was followed by Inventory Categorization (with unstandardized coefficient of $\beta$=0.468) and lastly Just-in-time practices *(*with unstandardized coefficient of $\beta=0$.417).

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On introduction of supply chain performance as the moderating variable, the results were summarized in Model 2. Table 3.18, Model 2 shows a correlation coefficient (R) square of (0.801) and Adjusted R square of (0.781). Thus, in this model, inventory management practices moderated by supply chain performance is predicting 80.1% of the variance in operational performance of public hospitals in Siaya County. This leaves 19.9% of the variation in operational performance of public hospitals in Siaya County being explained by the error-term or other variables other than inventory management practices moderated by supply chain performance. This finding also indicated the model's goodness of fit as exemplified by the coefficient of determination value of ($R^2$ value) of 0.801 adjusted to of 0.781. The standard error of the estimate, of 0.0227 being a measure of standard deviation around the fitted line suggests that about 95% of the prediction error in operational performance of public hospitals in Siaya County is less than ±1.96 (0.0227) = 0.0445.

The ANOVA results, in Table 3.18, Model 2, shows that the computed F statistic was 12.631, with an observed significance level (*p*-value) of 0.002 which was also less than p<0. 05. The introduction of supply chain performance into the model increased the model predictive capacity in explaining the variation in operational performance from 67.7% (See Model 1) to total of 80.1% (Model 2). The increase is statistically significant (p<.002) as shown by the F-change statistic (12.631). The Null Hypothesis 4 stated that there is no significant statistical moderating effect of supply chain performance on the relationship between inventory management practices and operational performance of public hospitals in Siaya County. The computed F-statistics (1, 76) was 12.631 and the *p*-value for the model was ($p \leq 0.002$). The findings indicate that there is a significant statistical effect moderating effect of supply chain performance on the relationship between inventory management practices (Inventory Categorization, Demand Forecasting and Just-in-Time) and operational performance (*p<.05).* The null hypothesis that there is no significant statistical moderating effect of supply chain performance on the relationship between inventory management practices and operational performance of public hospitals in Siaya County was therefore rejected and the alternative hypothesis that there is a statistically significant moderating effect of supply chain performance on the relationship between inventory management practices and operational performance of public hospitals in Siaya County was instead accepted. The *p*-value obtained ($p \leq$ 0.002), being much less than the level of significance of 0.05 indicates that the confidence level can be extended to 99% (F=10.354, $R^2 = 0.801$, Sig ≤0.002 at $\varepsilon \leq 0.05$). The independence of residuals in this model was analysed using Durbin-Watson statistic. Considering a Durbin-Watson statistic of 1.619, it was deduced that there was no serial correlation of the residuals as the values were within the accepted threshold of between 1.5 to 2.5 as was recommended by Hayes, (2013).

Comparatively, introduction of the moderating variable (supply chain performance) creates a positive shift in the correlation coefficient from R= 0.823 to R= 0.895. The R-square also shifts positively from $R^2$= 0.677 to $R^2$=0.801. The adjusted R-square also shifts positively from $R^2$= 0.663 to $R^2$=0.781. From Model 2, the model shows a positive unstandardized beta coefficient of 0.497 for Inventory Categorization, 0.586 for Demand Forecasting and 0.463 for Just-in-Time. The moderated relationship was thus modeled as in equation 4.8:

$$P \leq 2.416 + 0.497IC + 0.586DF + 0.463JIT + 0.623IMP*SCP \quad \text{.....Eq. (3.3)}$$

The regression coefficients for the inventory management practices sub-variables also had positive shifts from $\beta_1$=.465 to $\beta_1$=.497; $\beta_2$=.536 to $\beta_2$=.586; $\beta_3$=.417 to $\beta_3$=.463. These points to the fact that Inventory Categorization Practice, Demand Forecasting Practice, and Just-in-Time with under specific supply chain performance would significantly improve service delivery of operational performance of public hospitals in Siaya County. The interaction term for inventory management practices*supply chain performance vis-à-vis the service delivery of the public hospitals in Siaya County becomes $\beta_4$=.623.

The differential contribution of the independent variables in Model 2 shows that Demand Forecasting (with unstandardized coefficient of $\beta$=0.586) has the highest contribution in increasing the operational performance of public hospitals in Siaya County. This was followed by Inventory Categorization (with unstandardized coefficient of $\beta$=0.497) and lastly Just-in-time practices *(*with unstandardized coefficient of $\beta$=*0.*463).

These findings are consistent with prior empirical evidence linking effective inventory management practices to improved organizational performance. Hani et al. (2013) emphasized that efficient management of inventory

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resources and strong interdepartmental coordination are critical drivers of service delivery and customer outcomes. Similarly, Stella (2019) reported a positive relationship between inventory management practices and operational performance in Nigerian manufacturing firms, while Bakutega (2018) demonstrated that effective application of inventory practices enhances operational performance across organizations. Within the healthcare context, Njoroge (2015) likewise confirmed a positive association between inventory management practices and operational performance of public hospitals. Complementary evidence from the manufacturing sector further shows that efficient inventory management contributes to profitability and organizational effectiveness (Kwadwo, 2015).

These findings collectively reinforce the strategic importance of inventory management across sectors and support policy direction within Kenya's health system. The Kenya Health Policy (2014–2030) underscores the need for close collaboration between the Ministry of Health and public hospitals to ensure timely delivery of medical goods and services, thereby strengthening healthcare quality. Consistent with this position, Kobia (2018) reported that adoption of inventory management practices improves operational performance in public hospitals by approximately 60 percent.

Qualitative insights from respondents in this study further illuminate how inventory management practices influence operational performance in public hospitals. Respondents emphasized that inventory management should remain a central operational focus to enable hospitals to anticipate inventory requirements and adjust procurement policies accordingly. Others highlighted that effective inventory management is a universal organizational concern and should receive equal priority within public healthcare institutions. These perspectives align with the study's quantitative findings, suggesting that inventory managers must determine optimal order quantities and timing to sustain medicine availability and service continuity.

Respondents also underscored the reputational implications of inventory management, noting that drug availability directly shapes public perception of hospital performance. They emphasized the importance of integrating supply chain partners in pharmaceutical decision-making and fostering teamwork across hospital departments to enhance service delivery. In addition, procurement personnel reported that the Integrated Financial Management Information System (IFMIS) has helped streamline supplier selection and procurement processes, reducing bottlenecks in medical inventory acquisition. However, intermittent system instability and operational constraints were noted as continuing barriers to supply chain responsiveness.

Overall, these qualitative and quantitative findings underscore the central role of supply chain responsiveness in ensuring continuous availability of pharmaceutical inventory in public hospitals. National supply chain agencies such as the Kenya Medical Supplies Authority (KEMSA) emphasize that medicines must be available in the right quantities, at the right time, at the right location, and in the appropriate form—objectives that depend heavily on responsive replenishment systems. Operational performance indicators, including patient throughput, reduced mortality, and shorter hospital stays, are therefore closely linked to the responsiveness of hospital supply chains and the effectiveness of inventory management practices.

Oballa (2018) identifies cost efficiency and patient satisfaction as core dimensions of operational performance in healthcare institutions. Achieving these outcomes requires minimizing stock-out costs, shortening service lead times, enhancing supplier flexibility, reducing ordering cycle durations, ensuring continuous availability of essential medicines, minimizing waste, and maintaining regulatory compliance (Njoroge, 2015). However, public hospitals in Siaya County continue to experience irregular service lead times, frequent medicine stock-outs, and prolonged ordering cycles. These operational inefficiencies are partly attributable to delayed government capitation disbursements, limited internally generated revenue, and inventory losses through pilferage, all of which constrain supply chain responsiveness and weaken hospital operational performance.

The moderating influence of supply chain performance observed in this study therefore reinforces prior evidence that improvements in supply chain information flow and material flow enhance performance outcomes by reducing delays and strengthening operational coordination (Abuya et al., 2016a, 2016b). This suggests that inventory management practices yield stronger operational benefits when supported by responsive, reliable, and well-coordinated healthcare supply chains.

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## SUMMARY OF FINDINGS

The objective sought to sought to establish the moderating effect of supply chain performance on the relationship between inventory management practices and operational performances of public hospitals in Siaya County. 76% (Mean 2.314: SD=.224) of the public hospital workers believe that supply chain performance would moderate the relationship between inventory management practices and operational efficiency in public hospitals. 73% (Mean 2.056: SD=.181) of the public hospital workers believe that supply chain performance would moderate the relationship between inventory management practices and service delivery in public hospitals.

Hypothesis four stated that there is no significant statistical moderating effect of supply chain performance on the relationship between inventory management practices and operational performance of public hospitals in Siaya County. The computed F-statistics (1, 79) was 12.631 and the *p*-value for the model was ($p \leq 0.002$). The *p*-value obtained ($p \leq 0.002$), being much less than the level of significance of 0.05 indicates that the confidence level can be extended to 99%. This meant that there was a statistically significant moderating effect of supply chain performance on the relationship between inventory management practices (Inventory Categorization, Demand Forecasting and Just-in-Time) and operational performance of public hospitals in Siaya County. The null hypothesis was thus rejected and the alternate hypothesis was accepted. considering the values herein: ($F=12.631$, $R^2 = 0.801$, Sig $\leq 0.002$ at $\varepsilon \leq 0.05$).

The identified model equations to understand this relationship was:

$$P \leq 2.416 + 0.497IC + 0.586DF + 0.463JIT + 0.623IMP*SCP \quad \text{.....Eq. (4.0)}$$

The differential contribution of the independent variables in Model 4.7 shows that Demand Forecasting (with unstandardized coefficient of $\beta$=0.586) has the highest contribution in increasing the operational performance of public hospitals in Siaya County.

This was followed by Inventory Categorization (with unstandardized coefficient of $\beta$=0.497) and lastly Just-in-time practices *(*with unstandardized coefficient of $\beta$=*0*.463). Comparing the contribution coefficients before and after moderation, there was a positive shift on the beta coefficients for all the inventory management practices as follows: Inventory Categorization (unstandardized coefficient shifting from $\beta$=0.468 to $\beta$=0.497), Demand Forecasting (unstandardized coefficient shifting from $\beta$=0.536 to $\beta$=0.586) and Just-in-time practices *(*with unstandardized coefficient shifting from $\beta$=0.417 to $\beta$=*0*.463).

## CONCLUSION

The study sought to establish the moderating effect of supply chain performance on the relationship between inventory management practices on operational performances of public hospitals in Siaya County. The study finding indicated that there was a significant statistical moderating effect of supply chain performance on the relationship between inventory management practices and operational performances of public hospitals in Siaya County.

From the findings obtained herein, it was concluded that supply chain performance in term of supply chain integration and flexibility are important attributes that must be given greater priority in order to realize improved operational performance.

## RECOMMENDATION

The study sought to establish the moderating effect of supply chain performance on the relationship between inventory management practices and operational performances of public hospitals in Siaya County. The study thus recommends that inventory managers should always ensure that the supply chain performance is well managed for subsequent integration and flexibility. This would eventually improve value for money to the organization in its effort to improve service delivery.

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