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The Effect of Supplier Relationship Management on the Performance of Level Five County Referral Hospitals in Kenya.

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ABSRACT

The purpose of the study was to ascertain supplier relationship management on performance of level five county referral hospitals in Kenya. Transaction cost theory guided the study on cross-sectional census strategy of mixed methods research by random sampling on 47 county referral hospitals in Kenya on a target population of 150 respondents. Procurement, finance, and medical staffs were units of remark. The study piloted twenty (15) questionnaires (10 % of sample) to test validity and reliability of the research instrument. Data on 82 questionnaires was transformed to interval scale, analyzed using exploratory factor analysis in developing multiple linear regression equation model. The final overall model was interpreted using *F*-test statistics and R^2 value the overall final model results were; {*F*-statistic (5, 76) = (12.180)}, against critical *F* value {(2.49), and general rule of thumb {(F>2.5), R^2 (.443)}. This upshot suggests a substantial relationship amid all moderated independent variables on dependent variable. Future research be on suppliers' characteristics and behaviours on supplier visibility in pharmaceutical supply chains in Kenya, route planning and scheduling on sourcing optimization in county referral hospitals in Kenya, communication structures on performance of county referral hospitals in Kenya, order systems on performance of county referral hospitals in Kenya, and closed loop emended operations on performance of reverse logistics sourcing in referral hospitals in Kenya.

Keywords: Supplier relationship management, Performance, Policies, Supply chain, Supply chain management

INTRODUCTION

The concept of supply chain management is gaining more prominence among organizations as they strive to remain competitive in today's global markets that are ever more dynamic. Supply chain practices are becoming more and more central to improved performance and value creation within organizations. Focus is now more on networked business operations that require heavy investment in supply chain management practices. It is argued that through improvements targeting supply chain, firms as well as customers and partners stand to reap more benefits

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(Kepher, Shalle & Oduma, 2018). Global pandemics have been present and plagued humanity since the early days (LePan, 2020). Each pandemic caused both an economical and societal effect. A pandemic is defined by world health organization (WHO) as a worldwide spread of a new disease (WHO, 2018). These were all pandemics that threatened humanity. Supply chain is of great importance in the healthcare industry's is the backbone of the healthcare industry (Mathur, Gupta, Meena, & Dangayach, 2018).The quality of healthcare delivered is largely dependent on the availability of medical suppliers, at the right time and at the right quantities (Mathur et al., 2018). For performance improvement as well as to stay competitive in the market, the most important and valuable way is to have efficient supply chain management. Through this way, the firms remain competitive in the market since there is a great competition of SCM among organizations (Wandera, Namusonge & Sakwa, 2022b). In the era of early 1990's, the global market came under great competition in order to provide right product or services at a right time and right place. The textile industry organizations all over the world have got competitive now in local market and the work tasks should be accomplished to increase overall effectives of the textile firms and its supply chain. Thus, for this purpose, now the textile organizations have to understand the concepts and practices of supply chain management in order to increase the competitiveness and overall profit (Hussain *et al.*, 2018). In the healthcare sector, a SC includes movement of various goods through the involvement of different stakeholders to supply goods in an appropriate manner and provide good quality and the right quantity to accomplish the suppliers' requirements (Mathur et al., 2018).

STATEMENT OF THE PROBLEM

Public hospitals in Nairobi County, Kenya, often experience commodity security related challenges that range from erratic supply of health products and technologies (Akoko, 2018). There is frequent stock-outs of essential drugs and medical products therefore patients are sent to buy them in other outlets (Jepkosgei, 2018). In so doing, it exposes patients to financial constraints related to out-of-pocket expenditure which may exacerbate their poverty level. Shortage in supply of medical products such as drugs continues to be challenges globally; According to the World Health Organization (WHO), health product shortage is a multifaceted and global problem, affecting both developing and developed countries. Health care products are a crucial part of healthcare, and their availability is important to ensure patients' access to quality and affordable services. Health product shortages and misuse have a far-reaching effect on patients' well-being and the hospital's operations. A study conducted by Ganatra, Karimi, Shital, and Kayumba (2020) ascertained that ll the facilities had experienced both drug shortages and drug expiries with 75% of them having a drug fill rate of between 50% and 70%. This still remain a common challenge in most health facilities in Nairobi County despite dare consequences of this challenge among its citizens. Counties have been allocating a significant proportion of their budgets towards the health docket. However, a huge percentage of the health department's allocation, up to more than 90%

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in some cases, goes towards recurrent expenditure. Bungoma county for example, in 2018/2019 financial year, allocated about 40% of its budget to the department of health and sanitation (Controller of budget, 2018). This is way above the recommended 15% as per the Abuja declaration, 2001. About 97 percent of this was 4 however, allocated towards recurrent expenditure, leaving a paltry 3% for development including purchase of essential medicines (Controller of budget, 2018).

Insufficient medicines in public health facilities is common in the current devolved system in most counties in Kenya and in particular in Bungoma County. Most health facilities experience medicines stock outs from time to time, making it incredibly difficult for them to continue providing the health care that they should. Patients are often required to purchase drugs from private pharmacies, which are costly due to high markups in the supply chain. In 2017, Bungoma county referral hospital, the main public health facility in the county was hit by an acute shortage of medicines after KEMSA cut off supply over a Ksh 21 million debts. This shortage included very basic medicines such as painkillers, anti-malaria medicines and other medical suppliers (Basara & Oluchina, 2020). Counties have continued to owe KEMSA huge amounts of money for medicines already supplied. In January 2020, for instance, counties owed KEMSA about Ksh 2.8 billion. Bungoma County is still featured on this list with a Ksh 84.9 million debts (Magdaline Saya, 2020).According to data from GBD (Global Burden of Diseases), Most pneumonia deaths occurred in Kakamega 818, Meru 674, Nakuru 593, Mandera 566, and Homabay 534. These deaths were attributed to weak commodity management system leading to frequent shortage of drugs that treat pneumonia in children therefore causing death and this requires strategic form of procurement (SC R, 2017). Non-strategic vaccine supply and distribution are delaying and limiting the impact of Vaccine.

OBJECTIVES

The general objective of this study was to establish the relationship between supply chain management and performance of level five county referral hospitals in Kenya. To ascertain the relationship between supplier relationship management and performance of level five county referral hospitals in Kenya

THEORETICAL FRAMEWORK

This study adopted the transaction cost economic theory. The concept of TCE has been widely used to explain the existence and boundary of the firm as well as other forms of economic governance (Williamson, 2005b). Moreover, seldom have the antecedents of such transaction costs in supply chain collaborations been studied (Williamson, 2010). Studies have established that, not only do internal factors affect the collaboration but the policies laid down by regulatory bodies

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seem to have an effect on performance of firms. Transaction costs caused by partners' opportunism behavior have been cited to reduce the performance of the firms (Morgan et al., 2007). For this study the TCE theory implies that dairy processing firms that adopt supply chain decision sychronization can gain competitive advantage compared to others. Different transaction options have different costs and risks that will determine the performance of the dairy processing firm. Whether the transactions costs are lower or higher it will influence the sourcing decisions of the dairy processing firms.

TCE theory makes contributions to understanding of the influence of SCC on performance of dairy processing firms. It suggests that reducing complexity in transactions for example by seeking efficient governance structures and clarifying capability roles e.g., reducing the incompleteness of contracts will enhance the overall performance of the firm. Limitation of the Coase-Williamson approach is that comparative statics detract attention from the mechanisms that lead to different possible outcomes. If governance forms tend to minimize transaction costs, it is not clear how this occurs as managers to some extent aware of these costs and consciously reduce them with his emphasis on information problems and bounded rationality, Williamson does not suggest that managers have sufficient information. Instead (Williamson, 1975) hints at an evolutionary process of selection, but never develops this argument. If he did, he would have to address the well-established theoretical limitations to an (near) optimal evolutionary process of selection, including frequency effects and other context-dependent outcomes (Winter, 1964; Hodgson, 1996). Transaction Cost Theory was thought to be relevant for this study to understand the effect of supplier relationship management on the performance of level five counties hospital in Kenya, hence it gives a theoretical background for this study.

LITERATURE REVIEW

Benah and Li (2020) define supplier relationship management as the long-term relationship amid a firm and its suppliers. The buyer-supplier relationship, oriented towards quality management, tends to be very close, based on long-term common interests. According to supply chain experts, SRM is a comprehensive design of defining what they demand from a supplier and managing the connectivity between the companies to reach the required necessities (Matunga et al., 2021). This helps bridge the gap between the organization and the end-user. Numerous companies face difficulties within their network chains, resulting in a loss of business. It is recommended that such firms find and implement Supplier relationship management practices to ramp up their supply chain efficiency (Matunga et al., 2021). Ongeri and Osoro (2021) defined SRM as a process involved in managing preferred suppliers and finding new ones whilst reducing costs, making procurement predictable and repeatable, pooling buyer experience and extracting the benefits of supplier partnerships. While transactions self-centered or discrete relationships, typically

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characterized as arm's length, may be appropriate, for others, more collaborative relationships may be appropriate.

In other studies SRM includes arms-length transactions, partnerships, and just in time (JIT). SRM is the systematic, enterprise-wide assessment of suppliers' assets and capabilities in view of the organization's overall business strategy. SRM helps to determine what activities to engage in with different suppliers, and planning and execution of all interactions with suppliers, in a coordinated fashion across the relationship life cycle, to maximize the value realized through those interactions (Hill & Alexander, 2017). The focus of SRM is to develop two-way, mutually beneficial relationships with strategic supply partners to deliver greater levels of innovation and competitive advantage than could be achieved by operating independently or through a traditional, transactional purchasing arrangement (Shukla, 2016). Shukla (2016) concurred with the steps when his study identified the steps as identifying suppliers, soliciting information from suppliers, setting contract terms, negotiating with suppliers and evaluating suppliers. Supplier management plays an important role in the reduction of costs and the optimization of performance in industrial enterprises (Samuel, 2014).

Supplier management is a comprehensive approach to managing an organization's interactions with the firms that supply the products and services it uses. SRM is understood as the sourcing policy-based design of strategic and operational procurement processes as well as the configuration of the supplier management (Onyango, Onyango, Kiruri, & Karanja, 2015). According to Kosgei and Gitau, (2016) supplier relationship management is defined as a comprehensive approach to managing an enterprise's interactions with the organizations that supply the goods and services it uses. The goal of supplier relationship management (SRM) is to streamline and make more effective the processes between an enterprise and its suppliers just as customer relationship management CRM is intended to streamline and make more effective the processes between an enterprise and its customers (Wandera, Namusonge & Sakwa, 2022a). SRM includes both business practices and software and is part of the information flow component of supply chain management (SCM).

Geoffrey et al. (2019) investigated effects of supplier relationship management on firm performance in Kenya. Their study adopted a descriptive survey design to establish to which extent the independent variables affected firm performance in state corporations in Kenya. Both quantitative and qualitative data were used in the study. The sample size for the study was 80. The data were analyzed using SPSS version 23 and Excel 2016 to obtain quantitative measures of the study. The study of the findings indicates that supplier evaluation, collaboration trust, and supplier development had a positive statistical relationship on procurement performance in state corporations in Kenya. The study recommends more stringent measures to ensure the contractual

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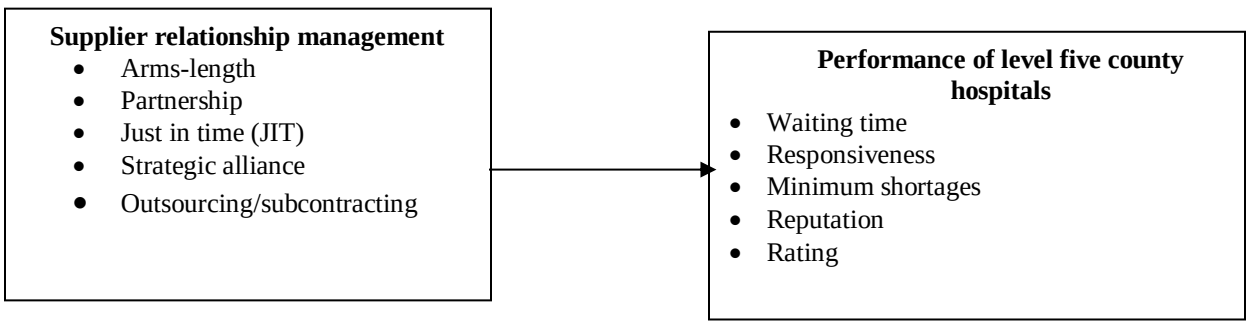
obligations of suppliers are met. Amoako-Gyampah et al. (2019) examine moderated-mediation relationships between SRM, operational flexibility, ownership structure, and firm performance (FP). The study was conducted in Ghana. The researchers distributed 250 questionnaires to the respondent, and a total of 185 were returned. The questionnaires were distributed to firms, a student in the supply chain and operations management department, and students pursuing an executive MBA program at a national university in Ghana.

They demonstrate that operational flexibility capability mediates supplier relationship management on firm performance link (Wandera et al., 2022a). Moreover, their moderated mediated analyses show that SRM's influence on firm performance is more vital for locally owned firms (domestic)than foreign-owned firms, indicating that domestic firms stand to gain more from investments in SRM than firms with foreign ownership. They recommended that future research incorporate other operational capability measures such as quality, innovation, and delivery since these additives can serve as intervening variables. Adesanya et al. (2020) explore how tobacco manufacturing companies can improve sustainability through effective supplier relationship management (SRM). The research used a single case study of a multinational tobacco company. Semi-structured interviews were conducted with respondents from the firm who are acquainted with sustainable SRM in the tobacco lobby and are using various techniques to enhance. Moreover, sustainability performance. This paper's findings emphasize significance of a procurement team's ability to collaborate with other functional units in incorporating green SRM. The conclusions also add to the growing body of knowledge about the influence of sustainability on supplier segmentation and multi-tier supplier management. More research is needed to investigate the generalizability of the findings of this study, which are based on a single case study.

Conceptual Framework

Conceptual framework refers to a visual or written relationship amid various variables often derived from one or more theories and traces the input-process-out put paradigm of the study (Saunders, Lewis & Thornhill, 2019).



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Independent variable Dependent variable

Figure 1: Conceptual framework

RESEARCH METHODOLOGY

The study adopted a cross sectional census design to justify the relationship amid independent and dependent variables using qualitative and quantitative techniques (Creswell & Clark, 2017). Cross sectional survey method involves analysis of data gathered from a population (Saunders, Lewis & Thornhill, 2016). The population for this study were all level five referral hospitals in Kenya, whilst the target population are all county referral hospitals in Kenya (Sekaran & Bougie, 2016). County referral hospitals were chosen as the unit of analysis (focus of study) as the sector exhibits strong elaborate sourcing best practices in supply chain management relevant to academia (Simchi-Levi et al., 2015; Wandera et al., 2022b). The senior supply chain officer, senior accountant officer, senior county pharmacists and health administrator in Level five county hospitals in each of the county were targeted respondents. The population was 200 respondents who were targeted. This was my unit of analysis, and my unit of observation will be 47 level five county hospitals. Choice of the sections involved in the supply chain, was informed by the focus of the study on the performance of the level five county hospital as a function of supply chain management.

The study used stratified random sampling to select 200 staff from the target population. Proportionate sampling was used to select the number of staff per category. Stratified random sampling is a probability sampling method that gives chances of selecting each unit within particular strata in a population. The strata in this study were sections of the supply chain management department. Stratified random sampling was used as it gives representative sample of the whole population. Proportionate sampling was used in allocating samples in each of the strata. Total population sampling is a type of purposive sampling technique where you choose to examine the entire population that has a particular set of characteristics such as specific experience, knowledge, skills, exposure to an event. In such cases, the entire population is often chosen because the size of the population that has the set of characteristics that you are interested in is very small (Topal, 2014).

Questionnaires were chosen as the main data collection instrument. The study gathered data using primary and secondary sources. The strategy of using mixed research methods is crucial in obtaining empirical data that allow for triangulation of other salient issues not captured by statistical tools and for interpretive coherence on communicative and pragmatic validity of study results (Gujarati et al., 2017).Primary data was collected using questionnaires from selected heads involved in supply chain management operations in 47 county referral hospitals in Kenya .Open and closed-ended questionnaires was the main instruments applied in the data collection process

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(Creswell & Clark, 2017).Validity is the degree to which a statistical tool fixes what it envisioned to measure by underscoring on accuracy of variables (Saunders et al., 2016). Tabachnick and Fidell (2019) opine that KMO values less than 0.6 are considered mediocre (unacceptable). Furthermore between 0.6 and 0.7 are good (middling), between 0.7 and 0.8 are great (meritorious), and above 0.9 are superb (marvelous). The average pilot (KMO) results for the study variables were (0.750) (good/middling) (Goretzko et al., 2019).

This is the extent to which a statistic is without bias and consistently measure across time by examining internal homogeneity of a variable by Cronbach's alpha or intra-class coefficient (ICC) tests (Field, 2017). The study used Cronbach's alpha in measuring internal consistency on one-dimensionality for data (Hardle & Simar, 2015). Statistics label Cronbach's alpha standardized reliability co-efficient values of 0.9 as excellent, 0.80 good, 0.7 acceptable, 0.6 is poor and whilst 0.5 is termed unacceptable (Watkins, 2018). To ensure findings are reliable, a pilot test was carried out on five (5) county level five referral hospitals in Kenya using twenty (20) questionnaires {(10% of (200)} using Cronbach's alpha test. The results were supplier relationship management had 0.747, transport management 0.913, information sharing 0.896, inventory management 0.912, government policy 0.902 and organizational performance 0.935. Conclusively with an average cronbach's Alpha of 0.896 (good) on six (6) items. These scores signify constructs result having a strong internal consistency amid measured variable items (Creswell & Clark, 2017).The data gathered from the questionnaire will be edited to ensure completeness, consistency, and accuracy. The data collected was transformed into a form appropriate for manipulation and analysis. The data gathered from the questionnaire were edited to ensure completeness, consistency, and accuracy. Data collected was analyzed by Statistical Package for Social Sciences (SPSS) version 26. In analyzing data, tables include distribution and percentage were used as analytical tools. This study established a multiple linear regression equation that explained relationship amid supply chain management and dependent variable (Yin, 2017). This relationship derived a link between independent variables on dependent variable by outlining a multiple linear regression equation as listed in the model.

$Y=\beta_0 +\beta_1 X_1+\varepsilon$

Where.

Y	Performance of level five hospitals in Kenya
β_0	Constant.
β_1	Coefficients of the independent variables.
X_1	Supplier relationship management,
E	Error term

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Descriptive Statistics for Supplier Relationship Management

Respondents were presented with twenty-five (25) opinion statements on indicators in measuring the variable as indicated in Table 4 on a five-point likert scale.

Table 4: Descriptive Statistics for Supplier relationship management Items

Opinion statement	SD (%)	DA (%)	N (%)	A (%)	SA (%)	Mean	Std Dev
Our hospital uses negotiations tactics on transactions	51.2	20.7	9.8	14.6	3.7	1.99	1.242
Our hospital clearly communicates on using arms-length transactions	32.9	39.0	13.4	9.8	4.9	2.15	1.134
Our hospital applies arms-length in measuring supplier relationships	48.8	23.2	12.1	9.8	6.1	2.01	1.252
Our hospital has other options apart from arms- length in measuring supplier relationships	32.9	35.4	13.4	11.0	7.3	2.24	1.233
Our hospital arms-length creates trust in relationships amongst suppliers	26.8	23.2	15.9	19.5	14.6	2.72	1.425
Our hospital partners with other organizations to facilitate continuous services	30.5	29.3	13.4	14.6	12.2	2.49	1.381
Our hospital premises suppliers as fundamental in our performance	24.4	25.6	14.6	19.5	15.9	2.77	1.426
Our hospital understands various cultures our suppliers emanate from	32.9	18.3	15.9	11.0	22.0	2.71	1.559
Our hospital recognizes our customers as a way of enhancing relationships	18.3	19.5	18.3	20.7	23.2	3.11	1.440
Our hospital outsources services that are unessential	20.7	19.5	12.2	25.6	22.0	3.09	1.476
Outsourcing of works has improved on quality of suppliers	15.9	24.4	22.0	20.7	17.1	2.66	1.335
n=82							

Fifty-one-point two percent (51.2%) of respondents strongly disagreed that “our hospital uses negotiations tactics on transactions”. Thirty-nine point zero percent (39.0%) of respondents disagreed that “Our hospital clearly communicates on using arms-length transactions”. Forty-eight point eight percent (48.8%) of the respondents strongly disagreed that “our hospital applies arms-length in measuring supplier relationships”. Thirty-five point four percent (35.4%) of the respondents disagreed that “our hospital has other options apart from arm’s length in measuring

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supplier relationships". Twenty-six point eight percent (26.8%) of respondents strongly disagreed that "Our hospital arms-length creates trust in relationships amongst suppliers". Thirty point five percent (30.5%) of respondents strongly disagreed that "our hospital partners with other organizations to facilitate continuous services". Twenty-five-point six percent (25.6%) of respondents disagreed that "our hospital premises suppliers as fundamental in our performance". Thirty-two point nine percent (32.9%) of the respondents strongly disagreed that "our hospital understands various cultures our suppliers emanate from". Twenty-three point two percent (23.2%) of the respondents strongly agreed that "our hospital recognizes our customers as a way of enhancing relationships". Twenty-five point six percent (25.6%) of the respondents agreed that "our hospital outsources services that are unessential". Twenty-four point four percent (24.4%) of the respondents disagreed that "outsourcing of works has improved on quality of suppliers". They demonstrate that operational flexibility capability mediates supplier relationship management on firm performance link (Wandera et al., 2022a). Moreover, their moderated mediated analyses show that SRM's influence on firm performance is more vital for locally owned firms (domestic) than foreign-owned firms, indicating that domestic firms stand to gain more from investments in SRM than firms with foreign ownership hence the above results agreed with the scholar.

Factor Analysis for supplier relationship management

Twenty-five (25) items in Table 5 describes supplier relationship management subjected to factor analysis (Warne & Larsen, 2014; Beauducel & Hilger, 2019).

Table 5: Total variance explained for supplier relationship management Items

Component	Initial Eigen values			Extraction of squared loadings			Rotation sums of squared loadings[a]		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1.	7.850	31.400	31.400	7.850	31.400	31.400	4.100	16.399	16.399
2.	3.817	15.267	46.667	3.817	15.267	46.667	3.935	15.739	32.138
3.	2.484	9.938	56.605	2.484	9.938	56.605	3.525	14.099	46.237
4.	2.029	8.115	64.720	2.029	8.115	64.720	3.110	12.441	58.678
5.	1.527	6.107	70.1537	1.527	6.107	70.1537	3.037	12.149	70.1537
25.	.064	.256	100.000						

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Extraction Method: Principal component analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Twenty-five (25) measures on supplier relationship management were further subjected to factor analysis that attracted only five (5) latent factor loadings for further analysis. This had an a cumulative variance of 70.1537% as presented in Table 4.13. This accumulation can be elucidated as follows; factor one (1) 31.400%, factor two (2) had 15.267%, factor three (3) had loading of 9.938%, factor four (4) had loading of 8.115% and factor five (5) had loading of 6.107% of total variance explained respectively. These components were further rotated as illustrated in Table 6.

(i) Rotated Component Matrix[a]

Table 6 presents results of analysis for rotated component matrix for supplier relationship management items.

Table 6: Rotated component matrix for supplier relationship management Items

Description	1	2	3	4	5
Our hospital subcontracting of services has enabled good relationship with suppliers		**.899**	-.061	.066	.163 .047
Our hospital advertises all subcontracting works to external parties		**.898**	-.077	.041	.192 .052
Outsourcing of works has improved on performance of services		**.898**	.022	.028	.053 .103
Outsourcing of works has improved on quality of suppliers		**.807**	.164	.205	.074 .023
Our hospital outsources services that are unessential		**.782**	-.004	.182	.181 .069
Our hospital evaluates suppliers risk for suppliers for suppliers before engaging them			-.140		**.827** .279 .042 .129

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Our hospital has a long term partnership with suppliers	-.008	**.807**	.340	.134	.177
Our hospital premises suppliers as fundamental to Performance	-.045		**.788**	.106	.276 .221
Our hospital uses technology in managing supplier Relations		.045	.304	**.758**	.141 .120
Our hospital prefers suppliers who observe JIT in supplier relations		.179	.159	**.748**	.149 .257
Our hospital recognizes our customers as a way of enhancing relationships		.140	.325	**.635**	.062 .071
Our hospital alliances have made our services to be responsive		.094	.149	.027	**.837** .187
Our hospital forms alliances as a means of sustaining competitive advantage	.135		-.064	.150	**.803** -.076
Our hospital develops alliances with other players in the industry		.121	.195	.032	**.780** -.034
Our hospital alliances have enabled our hospital to adequately serve our clients	.250		.236	.248	**.658** .032
Our hospital forms alliances as a means for enhancing supplier relationship	.162	.443	.005	**.600**	.128
Our hospital applies arms-length in measuring supplier relationships	.117	.108	.109	-.040	**.886**
Our hospital clearly communicates on using arms -length transactions	-.017	-.014	.353	.100	**.782**

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Our hospital uses negotiations tactics on transactions	-.112	.172	.143	.136	**.746**
Our hospital has other options apart from arms length in measuring supplier relationships	.215	.270	-.061	-.113	**.736**

Extraction method: Principal component analysis.
Rotation method: Varimax with the Kaiser Normalization.
a. Rotation converged in 7 iterations.

Table 6 elucidates three (3) latent factors having strong loadings greater than 0.4. These loadings exhibit existence of positive correlation amid competencies, arms-length, partnerships, just in time, strategic alliances and outsourcing/sub-contracting parameters. The loadings on component one (1) were items from sub-concepts on outsourcing/sub-contracting. Component one (1) was named outsourcing. The main loadings on component two (2) were items from sub-concepts on partnerships. Component two (2) was named Partnership. The main loadings on component three (3) were items from sub-concepts on just in time. Component three (3) was named Just in time. The main loadings on component four (4) were items from sub-concepts on alliances. Component four (4) was named Alliances. The main loadings on component five (5) were items from sub-concepts on arms-length. Component five (5) was named Arms-length.

(ii) Model summary, Anova and Regression Test results for supplier relationship management and the performance of level five county referral hospitals in Kenya items.

The study sought to establish supplier relationship management and the performance of level five county referral hospitals in Kenya. To attain this objective, a coefficient of determination, level of significance and strength of relationship were assessed using model summary, anova and regression analysis tests in Table 7.

Table 7: Model Summary, Anova, and Regression Analysis Test Results for supplier relationship management on the performance of level five county referral hospitals in Kenya Items

Model	R	R- square	Adjusted R-square	Std. Error of the Estimate	Durbin Watson
1	.323[a]	.105	.046	19.127	1.723

a. Predictors: (Constant), Outsourcing, partnership, arms-length, strategic alliances, just in time
b. Dependent variable: Performance

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Volume:07; Issue:03 (2024)

Model		Sum of square	df	Mean square	F	Sig
Regression		3245.383	5	649.077	1.774	.128[b]
1	Residual	27803.739	76	365.839		
Total		**31049.122**	**81**			

a. Dependent variable: Performance

b. Predictors: (Constant), Outsourcing, partnership, arms-length, strategic alliances, just in time

Model	Un-standardized		Standardized	t	Sig.
Coefficients					Coefficients
	B	Std.Error	Beta		
(Constant)	50.812	7.712		6.588	.000
Arms- length	.414	.504	.102	.823	.413
1 Partnership	.506	.480	.149	1.054	.295
Just in time	.110	.495	.030	.223	.824
Strategic alliances	.506	.503	.128	1.006	.318
Outsourcing	.156	.406	.046	.384	.702

a. Dependent variable: Performance

The coefficient of determination and coefficient correlation results in Table 7 for model 1 are {(R^2=0.105, R=0.323)}. These results implies that 10.5% of variation in the response variable is explicated by supplier relationship management, whilst 32.3% is the relationship amid independent and dependent variables. The anova results in Table 7 are {F (5, 76) =1.774, p<.05)}. From these outputs, *F* statistic (1.774) is lower than critical *F* value (2.49), and general rule of thumb (F>2.5), thus designating the model as insignificant (Kissell & Poserina, 2017).This outcome designates supplier relationship management as inconsequential influenced the criterion variable by (1.774). The analysis derived the following econometric regression equations; $Y=50.812+.414X_1+.506X_2+.110X_3+.506X_4+.156X_5$, where;Y: Performance, X_1: Arm's length, X_2: partnership, X_3: just in time, X_4: strategic alliances and X_5: outsourcing. Similarly, these findings inform that county. Moreover, level five hospitals in Kenya perform considerably by (50.812) devoid of supplier relationship management in place.

DISCUSSION

This study sought to establish supplier relationship management and the performance of level five county referral hospitals in Kenya. To test whether supplier relationship management considerably influence the dependent variable, descriptive analysis, factor analysis, model summary, anova, and regression tests analysis were executed using five (5) indicators (arms-length, partnerships, just in time, strategic alliances and outsourcing/sub-contracting) on the dependent variable in Table 4.20.

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INTERNATIONAL JOURNAL OF SOCIAL SCIENCE AND HUMANITY RESEARCH
E ISSN: 2689 3525
Volume:07; Issue:03 (2024)

The *F* statistic (1.774) against critical *F* value and general rule of thumb {(2.34, 2.5)}, depict a significant link with the criterion variable (Kissell & Poserina, 2017). The R^2 (0.105) exhibit an inconsequential relationship amid the variable and the response variable (Yolsal, 2021).

SUMMARY FINDINGS

The objective of this study was to establish supplier relationship management and the performance of level five county hospitals in Kenya. The three (3) latent factors of supplier relationship management were; arms-length, partnerships, and just in time. Descriptive statistics on the variable postulate that supplier relationship management had a considerable effect on the response variable. The study ascertained that arms-length, partnerships, and just in time, influenced criterion variable

CONCLUSION

Supplier relationship management significantly influenced the response variable. This verdict confirms that arms-length, partnerships, and just in time indicators were relevant on the response variable.

RECOMMENDATIONS

This sub-section was linked to managerial and policy frameworks for county level five hospitals in Kenya. The study recommends that organizations should develop structures that create sustainable systems for managing supplier relationship management by on arm's length transactions, partnership, and JIT. Equally counties should develop robust transport systems to allow flow of essential services. Studies indicate that information sharing influences flow of services, but real time information is lacking. Lastly, inventory management plays a significant role in enhancing service delivery. Events of inadequate drugs and essential services in county hospitals should be controlled. Supply chains are solutions to a seamless service offers by organizations. The government should allow county governments procure certain non-essential drugs directly from suppliers to beat bureaucracy. All county governments should employ qualified personnel in procurement and frequent checks and audits be conducted n all hospitals on sully chain management best practices.

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