EFFECT OF SUPPLIER RISK MANAGEMENT PRACTICES ON SUPPLY CHAIN PERFORMANCE OF COUNTY PUBLIC REFERRAL HOSPITAL IN WESTERN REGION, KENYA

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EFFECT OF SUPPLIER RISK MANAGEMENT PRACTICES ON SUPPLY CHAIN PERFORMANCE OF COUNTY PUBLIC REFERRAL HOSPITAL IN WESTERN REGION, KENYA

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ABSTRACT

This study examined effect of supplier risk management practices on supply chain performance of County public referral hospital in Western Region, Kenya. The study was guided by dynamic risk management theory. Descriptive survey design was used in this study. The study was conducted in Western region focusing on four county public referral hospitals: Kakamega County Referral hospital, Busia County referral Hospital, Bungoma County referral hospital and Vihiga County Referral Hospital. The study targeted 102 respondents who included Supply chain officers, Hospital Medical Superintends, Hospital Administrators, County Directors of Health services, County Directors of Public Health, Pharmacist In charge, Nursing Officer in charge, Laboratory managers, Orthopediatric in Charge, Physiotherapists, Accountants, Hospital Nutritionist, Hospital Caterers and Finance Officers. Stratified random sampling and simple random technique was used to select 81 respondents from the four County public referral hospitals. Primary data was collected using well-designed structured questionnaires. Quantitative data was analyzed using descriptive and inferential statistics. The data was presented in form of tables and graphs. The study found out that the County Public referral hospitals carried out identification of potential risk in supply chain, carried out on-site investigation of existence of risk and carried out joint training sessions with suppliers. However, they moderately carried out joint risk workshops with their suppliers and dual sourcing is fairly preferred to balance risks. The study further found that supply risk management practices positively and significantly influence supply chain performance of County public referral hospital in Western Region, Kenya. The study concluded that supplier risk management practices significantly determine the supply chain performance of County public referral hospital in Western Region, Kenya. This study recommended that the County public referral hospital should formulate policies to enhance frequent identification of potential risk in supply chain and onsite investigation of existence of risk. Further the study also recommended that County public referral hospital should carry out joint risk workshops with our suppliers.

Key Words; *Supplier Risk Management, Supply Chain Performance, Western Kenya Region County Public Referral Hospitals*

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INTRODUCTION

Today's market place is characterized by turbulence and uncertainty. Market turbulence has tended to increase in recent years for several reasons the supply chain. Demand in almost every industry sector seems to be more volatile. Product and technology life-cycles have shortened significantly and competitive product introduction make life cycle demand difficult to predict (WB, 2012). Considerable 'chaos' exists in supply chains through the effect of such actions as sales promotion, quarterly sales incentives or decision rules such as quantities which results into continuous disruptions along the supply chain (Singhal & Hendricks, 2005). Today, vulnerability of Supply chains to disturbances or disruptions has increased and has received considerable attention by practitioners as well as academics (Skipper & Hanna, 2009). It's not only the effect of external events such as natural disasters but also the impacts of changes in business strategy, the impact of one entity in the supply chain failing can as well lead to a number of entities closing down and in some instances the whole supply chain shuts down. The risk implications of the entwined global marketplace that characterize today's supply chains have also been evidenced vividly in the recent global financial crisis. Many companies have experienced a change in their supply chain risk profile as a result of changes in their supply chain profile and changes in their business models. The adoption of 'lean' practices, the move to outsourcing and a general tendency to reduce the size of the supplier base potentially increase supply chain vulnerability (Richard, 2008).

According to Chopra and Sondhi (2004) risk in the concept of supply chains maybe associated with the production/ procurement process, the transportation/shipment of goods, and or the demand markets. In today's volatile era with businesses and, more specifically, supply chains becoming increasingly global, the industrial environment is heavily affected by uncertainty, which can potentially turn into unexpected disruptions. Economic and political turmoil, socio-cultural changes, highly fragmented and demanding behavior of consumers, rapid development and changeover of products, have seriously modified the economic and industrial environment in which companies act, bringing out new issues related to assuring the continuity of the business against potential disruptive events. Moreover, one of the key factors contributing to disrupting supply chains is the focus on lean supply chains in academia and industry during the 90s. Zero-inventory and just-in-time movement of goods became the dominant model that increased the sensitivity of supply chains.

Little issues quickly become big issues. In addition, supply chains have become more global, increasing the order to delivery cycle times by a factor of four or five. This acts to amplify the potential of a disruption and the impact. Outsourcing has also become the dominant model, increasing the forces driving disruptions such as other customers competing for volume and attention, information flow issues, mistrust, win-lose negotiations, financial stress, misalignment of interests and goals. These have increased the likelihood of a disruption exponentially. As a common term to designate the likelihood of occurrence of such events we use the word risk:

Managing risk in the supply chain has never been as challenging as it is today. As more companies have outsourced production to overseas locations, supply chains have been extended, the number of nodes increased, and the complexity of the networks have moved exponentially. In the past, supply chain managers were mainly concerned with reducing cost, reducing purchase price variance, and managing inventory. Today, supply continuity is the single biggest business driver. Indeed, organizations now recognize that "preservation of shareholder value" is of paramount importance in supply chain management, and it has been assessed that disruptions can exert a tremendous impact on the company's overall performance of supply chain operations, if there are not suitable mechanisms or

tools able to prevent or smooth their negative effects, as many real cases have showed in the past few years Sheffi, (2005).

Statement of the Problem

In the current global downturn, businesses are being hit by falling demand and unpredictable global supply costs which will expose these and other built in supply chain vulnerabilities. The key questions are, do business leaders understand these vulnerabilities and does their supply chain team have the capability to identify them and present the plans to mitigate them? In most cases the answer is no. In tough times businesses need to focus absolutely on profit, cash flow and eliminating unpredictable events from a declining demand profile (WB, 2012).Businesses processes today are endangered due to increased vulnerabilities as a result of risks along the process of enhancing performance in the organization (Suhong, Bhanu, Ragu, & Rao, 2006).

Several studies reveal that Supply chains collapses at an alarming rate due to continuous risk disruptions in developing nations in the world (Singhal& Hendricks, 2005). Past studies showed that most supply chains fail within first three years of business operations (Bosman, 2006). According to World Bank report (2013),companies with poor supply chain performance experienced 33-40%, lower stock of returns and approximately 70% to 80% of these companies' supply chains fail within 1-3 years (WB, 2013). It's also evident that share price volatility in the year after the supply chain performance drop goes to 13.5% higher compared with volatility in the year before the disruption (Hendricks &Singhal, 2005).

Over the last four years, Kenya's public health institutions have seen a severe drop in supply chain efficiency despite enough medical supplies, according to a paper by Areri and Gekara (2019). The RoK (2019) points out those public health institutions need medical products to improve supply chain performance. According to an AfriCOG (2015) analysis, service performance in Kenya's public hospitals remains subpar despite supplier control. The quality of health treatment in Kenya's public hospitals is lacking, according to a research by NACPD(2018).

However, from a report by the Areri and Gekara (2019) Kenya has witnessed a sharp decline in the supply chain performance in the public health institutions over the last four years despite adequate medical supplies. The RoK (2019) notes that medical supplies are required to enhance supply chain performance in the public health institutions. A report by the AfriCOG (2015) notes that Kenya despite supplier management, service delivery in the public hospitals is poor. A study by NACPD(2018) shows that despite quality supplier management the quality health care in the public hospitals is wanting in Kenya. The above foregoing background reveals that supplier management and effective measures are required to keep public referral hospitals supply chain performance on the upward trend.

Research Objective

The objective of the study was to examine effect of supplier risk management practices on supply chain performance of County public referral hospital in Western Region, Kenya. The study was guided by the following research hypothesis;

- **H_{01}**: Supplier risk management practices do not significantly affect supply chain performance of County public referral hospitals in Western Region, Kenya.

LITERATURE REVIEW

Theoretical Framework

This study was guided by dynamic risk management theory. The theory develops a continuous time, infinite horizon model of a firm which endogenously and dynamically adjusts its risk management contract which is a function of the firm's exogenous product price (frank, 2003). The model can be described by the following timeline: At time zero, the levered firm decides whether to initiate a risk management contract (guaranteeing a set of forward prices for a certain fraction of the firm's

output), and chooses its maturity (Carter, 2004). At each subsequent time period, the firm produces one unit of product at a fixed cost and realizes cash flows that are determined by the current spot price and the price guaranteed by the risk management contract (if any) and whether or not the firm is in financial distress. The firm can default, in which case the debt holders recover part of the firm's value and the Equity-holders get nothing and are obligated to terminate (pay out or cash out) any outstanding risk management contracts, or, if not in default, the firm meets its periodic debt payments and pays production costs, and then makes a decision with respect to its risk management strategy; the firm can enter a risk management contract and choose its maturity; if the firm currently operates with a risk management contract in place, it can choose to terminate the contract early and to cash out (or to pay out) its current position at a fair market value. Both the initiation and the termination of the risk management contract generate transaction costs (Klapper, 2001).

The residual cash flow after debt payments and production costs is paid to the equity-holders as dividends. The firm is assumed to default on its debt optimally; when the market value of the firm's equity becomes zero. The firm's decisions with respect to the risk management strategy are made from the perspective of the shareholders who maximize the value of their equity stake. Both equity and debt are priced fairly taking into account the risk management strategy of the equity-holders. Because of a need to limit the dimensionality of the model, we are forced to make several modeling compromises. First, the model does not allow the firm to change the structure of its debt over time. Second, it assumes that the firm holds no cash, which implies that it pays all its residual cash flows as dividends (Stulz, 2002). The understanding of corporate risk management is based on static models that describe how various capital market imperfections give firms an incentive to reduce risk. While existing models provide rich intuition as to why firms should manage risk, they provide fewer predictions about how firms translate the incentives to manage risk into actual decisions on the choice of risk management instruments and how these strategies evolve over time (Zsidisin, 2004). Dynamic model of corporate risk management present and tests a continuous-time and infinite-horizon framework. It analyzes issues, which are difficult to address in static models, including the optimal timing to initiate risk management contracts and frequency of adjustment (Brown, 2001).

Many static models assume that firms make one-period decisions to hedge and that these decisions are irreversible and costless. Therefore one-period models also often implicitly assume that the employed risk management instruments have the same duration as the lifetime of the firm. Treating risk management choices as irreversible limits the ability of the static models to recognize the value of dynamic risk management in adapting to changes in market conditions and firm characteristics. The fact that most risk management instruments have shorter maturities than the duration of the firm's operations has important implications for the timing and sequence of risk management decisions and it provides an intuition for the limited effect of risk management on firm exposure (Brown &Klapper, 2001). This theory explicitly explains the application and relevance of hedging against risk management strategy in this research.

Conceptual Framework

Researchers that use conceptual frameworks find it easier to make connections between the many variables in their studies because they provide a visual representation of the relationships between the various ideas (Mugenda & Mugenda, 2008). This study's dependent variable will be the supply chain's performance, while the independent variables include methods for supply chain cooperation, supplier selection, supplier risk management, and lean supply management. Figure 1.0 depicts the theoretical framework that served as a guide for this investigation.

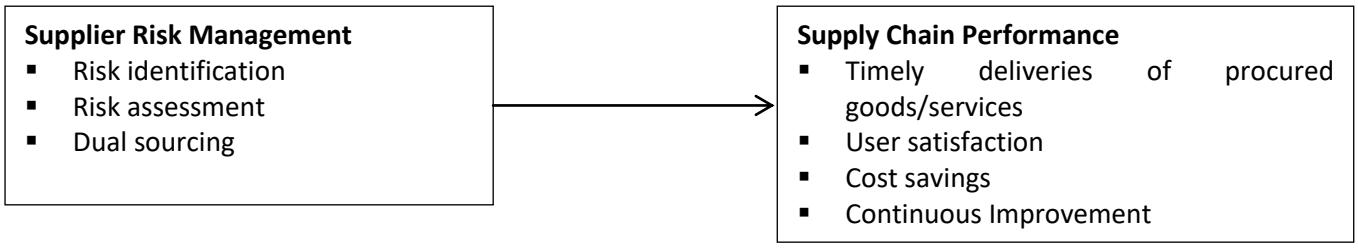

Figure 1: Conceptual Framework

Empirical Studies

Studies have been done on supply chain management practices that organizations adopt. However, few have attempted to discuss the impact of supply chain risk management practices on organizational performance. The following global studies that relate to this study have been done; Flovian and Constangioara (2004) did a study on the impact of risks in supply chain on organizational performance in Romania.

They found out that it was important to develop adequate SCRM strategy in order to improve organizational performance. They suggested that at National level, it was necessary to develop a formal SCRM strategy and to avoid risky areas. They noted that management should implement changes in order to deliver value for the stakeholders, expand, build up capabilities and scale up improvements to manage organizational risks. Sosa, Alcaraz and Torres (2014) studied the effect of some of risk factors in the supply chains performance, A case of study in Mexico. They indicated that the demand which they considered as an independent factor has a direct positive relationship with suppliers, politics and manufacturing factors.

As a result, the suppliers had an effect on the flexibility factor and the flexibility had a direct positive relationship with the customer service factor. Their results indicated that the infrastructure factor does not have any relationship with the other factors assessed. They observed that their study had implications for researchers and practitioner in the manufacturing sector in that it allows evaluating risk activities that have negative effect on the performance of supply chain in manufacturing export companies in Mexico.

Abdala, Okeidat and Aqqad (2014) researched on the impact of supply chain management practices on supply chain performance in Jordan. They found out that internal integration, information sharing and postponement significantly and positively affect supply chain efficiency performance and supply chain effectiveness performance. However, they observed that supplier and customer integration does not affect supply chain efficiency and effectiveness performance.

Berg, Knudsen, Norman (2008) did a study in Sweden on assessing performance of supply chain risk management programmes – a tentative approach. They found out that in a supply chain setting, it was harder to assess what type and level of risk an organization is prepared to take since the amount of risk an organization is prepared to take is related to what type of business model the organization operates under and what kind of risk leadership is present in the organization. They also found out that people are very critical in the process of managing risks in the organization thus it is important to assess whether people are aware of the supply chain context and whether they are using risk management tools and techniques to work with suppliers.

Regionally, the following studies have attempted to discuss the literature related to this study. Mohamed (2015) did a study on supply chain risk management at Pharco pharmaceuticals, a pharmaceuticals manufacturer in Egypt. He found out external risks were perceived to be more

significant than internal risks. The research also revealed that there was no clear strategy deployed by the company to mitigate most of its supply chain risks.

Toyin (2012) did a study on supply chain management practices in Nigeria today: Impact of SCM performance. The study revealed that SCM practices had an impact on the performance of supply chain management performance. Agorzie, Monday and Adermi (2017) did a study on supply chain risk factors Assessment in the Nigerian Pharmaceutical Industry. The study examined their impact level and measured their criticality so as to prioritize those risk factors. The study revealed that pharmaceutical firms in Nigeria are better equipped to manage and mitigate risk factors in their supply chain. In Kenya, some studies related to this study had been discussed.

Amemba (2013), studied the effect of implementing risk management strategies on supply chain performance; A case of Kenya Medical Supplies Agency. The study revealed that the level of implementation of risk management strategies in the KEMSA supply chain was medium and that risk identification, risk analysis and evaluation and risk control and monitoring strategies that were implemented in the KEMSA supply affected the performance to a great extent. The study recommended that KEMSA should implement risk management strategies proactively at the planning stages of supply chain and to ensure that there was a joint participation with all supply chain partners in the strategy implementation.

Cherono and Juma (2014) did a study on the Analysis of the significance of risk management practices in supply chain performance in Kenya; A case study of County Government of Kericho. The study concluded that risk management practices are positively correlated with supply chain performance in Kericho County. Munyuko (2015) did a research on the effect of supply chain risk management on organization performance; A case of Andy Fowarders Services Limited. She found out that there was a direct link between supply chain risk management and organizational performance. The study therefore concluded that supply chain risks affect organization performance in the event they materialize and that there was need for the organization to identify risk exposures, analyze risk exposure and put in place plans to mitigate the risks identified within their supply chain.

METHODOLOGY

The study adopted a descriptive survey research design. The research was relevant to this study as it collected primary data using structured questionnaire and thereafter investigate how the dependent variable was influenced by the independent variable. The population of this study constituted of 102 respondents from the four public referral hospitals. The respondents included supply chain officers, hospital medical superintends, hospital administrators, county directors of health services, county directors of public health, pharmacist in charge, nursing officer in charge, laboratory managers, orthopediatric in charge, physiotherapists, accountants, hospital nutritionist, hospital caterers and finance officers. The study sample size was determined using Taro Yamane's proportional sampling technique formula where 81 respondents were sampled. The researcher used stratified sampling technique where the respondents were stratified based on their job description. The study also employed simple random technique to select the respondents from each strata.

The study used questionnaires to collect primary data for the study. Content validity was checked through giving the instrument to be reviewed by the supervisors of the study and experts in the field for validation before embarking on the real data collection. Reliability of the instrument was determined using Cronbach Alpha coefficients where the instrument yielded an alpha of 0.755. SPSS version 23 statistical software was used to attain the descriptive statistics and inferential statistics of the collected data. Inferential statistics was done to test hypotheses which consist of Pearson correlation and regression analysis. Linear

regression analysis was used to determine the influence of independent variable on the dependent variable. The following regression model was used:

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

Where;

Y = Supply chain Performance (Dependent variable)

B_0 = Y intercept (constant) whose influence on the model is insignificant

X_1 =Supplier risk management practices

β_1= Model coefficients which are significantly large to have significant influence on the model.

ε = is the error term

FINDINGS AND DISCUSSION

Descriptive Statistics

Supplier risk management practices

These are descriptive statistics to find out the extent of supply chain performance of County public referral hospital in Western Region, Kenya. The results are presented in Table 1.0 in which percentage are presented inside brackets while frequency outside brackets.

Table 1: Supplier risk management practices

N=59; 5- strongly agree, 4-Agree, 3-partially agree, 2-Disagree and 1-strongly disagree, f-frequency, %-percentage

Statements	Stats	5	4	3	2	1
The organization carries out identification of potential risk in supply chain	f	10	30	6	5	8
	%	16.9	50.8	10.2	8.5	13.6
The organization carries out on-site investigation of existence of risk	f	19	13	20	5	2
	%	32.2	22	33.9	8.5	3.4
The organization carries out joint training sessions with our suppliers	f	16	21	15	4	3
	%	27.1	35.6	25.4	6.8	5.1
The organization carries out joint risk workshops with suppliers	f	13	21	14	8	3
	%	22	35.6	23.7	13.6	5.1
In any organization dual sourcing is preferred to balance risks	f	9	24	17	7	2
	%	15.3	40.7	28.8	11.9	3.4

According to the results of Table 1, more than half of the respondents agreed (50.8 percent) and strongly agreed (16.9 percent) that the company conducts identification of possible risks in the distribution chain. On the other hand, 13.6 percent of respondents strongly disagreed and 10.2 percent slightly agreed that the company conducts identification of possible risks in the supply chain, according to the survey results. As a result of the survey, 32.2 percent of respondents strongly agreed that the organization conducts on-site investigations to determine the presence of risk, 22.0 percentage agreed, and 33.9 percent partially agreed that the organization conducts on-site investigations to determine the presence of risk.

Furthermore, 35.7 percent of those who answered the survey agreed that the organization conducts joint training sessions with our suppliers, with an additional 27.1 percent strongly agreeing and 25.4 percent slightly agreeing on the subject. The findings also indicated that 35.6 percent and 22.0 percent of those who responded agreed and

strongly agreed that the company conducts joint risk workshops with our suppliers, respectively, while 23.7 percent of those who responded somewhat agreed with the statement as well.

Final results showed that 40.7 percent of those who answered the survey believed that dual sourcing is preferable to balance risks, with 15.3 percent strongly agreeing and 28.8 percent moderately agreeing on the subject. Using a survey of organizations, Nyagechanga (2017) attempted to determine the association between procurement risk management methods and supply chain performance. According to the findings of the research, firm executives should continue to conduct frequent risk assessments in their supply chains as a means of avoiding the negative consequences of uncertainty. According to the findings of the survey, procurement risk management should be at the top of management's priority list since there is a growing understanding that hazards might hide in places where they have not previously been identified. According to the findings of the research, procurement risk management methods may be able to explain or account for supply chain performance.

Table 2: Descriptive statistics: Supply Chain Performance

N=59; 5- strongly agree, 4-Agree, 3-partially agree, 2-Disagree and 1-strongly disagree, f-frequency, %-percentage

Statements	Stats	5	4	3	2	1
The quality of goods and services procured has improved	f	18	25	10	3	3
	%	30.5	42.4	16.9	5.1	5.1
There is timely delivery of goods and services	f	4	24	13	13	5
	%	6.8	40.7	22	22	8.5
Services and goods are acquired at right price	f	16	23	8	9	3
	%	27.1	39	13.6	15.3	5.1
Right quantity of goods and services are procured.	f	13	26	11	7	2
	%	22	44.1	18.6	11.9	3.4
There has been a reduction in procurement process cost	f	18	25	10	3	3
	%	30.5	42.4	16.9	5.1	5.1

As shown in Table 2, 30.5 percent and 42.4 percent of respondents agreed and strongly agreed that the quality of products and services purchased has improved. The quality of products and services bought has improved, on the other hand, according to 16.9 percent of those who answered the survey's questions in part. Furthermore, 40.7 percent of the selected respondents believed that products and services are delivered on time, with 6.8 percent strongly agreeing that this is the case. On the other side, 22.0 percent of respondents slightly agreed and 22.0 percent strongly disagreed that product and services are delivered in a timely manner.

More specifically, 39.0 percent of respondents agreed that services and goods are acquired at a reasonable price, with 27.1 percent strongly agreeing, 13.6 percent partially agreeing, and 15.3 percent disagreeing on the subject. The findings also found that the vast majority of respondents (44.1 percent) felt that the appropriate amount of products and services was bought by the organization. and 22.0 percent of those polled

strongly agreed with the statement. However, 18.6 percent of respondents somewhat agreed and 11.9 percent disagreed that the appropriate number of products and services was obtained. Final results showed that 42.4 percent of respondents believed there had been a decrease in procurement process costs, with 30.5 percent strongly agreeing and 16.9 percent slightly agreeing that there had been a reduction in procurement process costs.

Inferential Analysis

Inferential statistical analysis was conducted to establish the relationship between Supplier risk management practices and Supply chain performance of County public referral hospital in Western Region, Kenya. Statistical significance of the relationship was determined to indicate whether to reject or accept the null hypothesis stated for the study. Pearson Moment Correlation Coefficient Analysis model was used to establish the association between Supplier risk management practices and Supply chain Performance. Simple Regression Analysis model was used to establish the level of significance of Supplier risk management practices on Supply chain Performance and determine the state of the null hypothesis.

Table 3: Correlation Analysis Supplier risk management practices

		Supplier risk management practices	Supply chain Performance
Supplier risk management practices	Pearson Correlation	1	.505**
	Sig. (2-tailed)		.000
	N	156	156
Supply chain Performance	Pearson Correlation	.505**	1
	Sig. (2-tailed)	.000	
	N	156	156

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient (r) results are presented as shown in Table 3 using Pearson correlation analysis, which computes the direction (Positive/negative) and the strength (Ranges from -1 to +1) of the relationship between two continues or ratio/scale variables. A correlation coefficient of 0.505** implied that there is significant positive relationship between supplier risk management practices and supply chain performance of County public referral hospital in Western Region, Kenya. Javaid and Siddiqui (2018) examined the impact of supply chain risk management factors on supply chain responsiveness and supply chain performance of firms operating in Pakistan. The result of this study showed that supply risk management, operational risk management had a positive and significant relation with supply chain responsiveness and supply chain responsiveness is in positively significantly associated with supply chain performance. Rotich and Ochiri (2018) found that Procurement risk management has a significant influence on procurement performance of mega projects in the energy sector in Kenya.

The study sought to establish the influence of Supplier risk management practices on the organization performance of Kakamega County. To do so, it was guided by the following first null hypothesis:

Ho1: Supplier risk management practices do not significantly affect supply chain performance of County public referral hospitals in Western Region, Kenya

This was tested using simple regression analysis, and the findings are presented in Table 4.

Table 4: Regression Results of Supplier risk management practices and Supply chain 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	.505[a]	.255	.250	.7347	.255	52.648	1	57	.000

a. Predictors: (Constant), supplier risk management practices

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	28.420	1	28.420	52.648	.000[b]
	Residual	83.130	57	.540		
	Total	111.550	58			

a. Dependent Variable: Supply chain performance

b. Predictors: (Constant), supplier risk management practices

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.490	.263		5.661	.000
	Supplier risk management practices	.521	.072	.505	7.256	.000

a. Dependent Variable: Supply chain performance

The results revealed that there was a statistically significant positive relationship between supplier risk management practices and supply chain performance of County public referral hospital in Western Region, Kenya. Supplier risk management practices accounted for 25.5% (R^2 = 0.255) variations in the supply chain performance of County public referral hospital in Western Region, Kenya. Therefore, supplier risk management practices are a significant predicator of supply chain performance of County public referral hospital in Western Region, Kenya.

Results show that supplier risk management practices had a positive, linear and significant (p-value is less than 0.05) association with the supply chain performance of County public referral hospital in Western Region, Kenya {regression coefficient, B=0.521, ANOVA, F=52.648 and t-test value, t=7.256}. The results are represented in the following model:

$Y = \beta 0 + \beta_3 X_3 + \varepsilon$

Where Y= supply chain performance of County public referral hospital in Western Region, Kenya,

β_0= 1.490(constant)

β_3= 0.521

X_3= Supplier risk management practices

Substituting equation above with values, the model becomes: $Y= 1.490+ 0.521X_3+\varepsilon$

From the above model, the constant had coefficient of 1.490, p=0.000, this implies that in the absence of supplier risk management practices, supply chain performance of County public referral hospital in Western Region, Kenya would be positively at 1.490. This supply chain performance of County public referral hospital in Western Region, Kenya would be significant (P<0.05). Further, supplier risk management practices had beta coefficient of 0.521, P=0.000. This implies when everything is held constant, one percent increase in the supplier risk management practices would results to a significant increase in supply chain performance of County

public referral hospital in Western Region, Kenya by 52.1%.

The results are in agreement with Mburu (2017) who sought to determine the association between risk management strategy and supply chain performance among manufacturing companies in Kenya. The study findings revealed that the constructs of risk identification management strategy combined together influenced supply chain performance. Munyuko (2015) carried out a study to determine the effects of Supply chain risk management on organization performance. The results obtained showed that there was a direct link between supply chain risk management and organization performance. It was concluded that supply chain risks affect organization performance in the event they materialize and therefore there was need for organization to identify risk exposure, analyze the risk exposure and have in place mitigation plans for the risk identified within their supply chain.

The indicators of supplier risk management practices include risk identification, risk assessment and dual sourcing. Descriptive analysis revealed that majority of the respondents confirmed that the organization carries out identification of potential risk in supply chain, the organization carries out joint training sessions with our suppliers Inferential analysis revealed that there is significant relationship between supplier risk management practices and supply chain performance of County public referral hospital in Western Region, Kenya. This postulated that improvement in supplier risk management practices would results to increase in supply chain performance of County public referral hospital in Western Region, Kenya.

The results are supported by Okonjo, Magutu and Nyaoga (2016) who sought to establish the relationship between procurement risk management practices and supply chain performance among mobile phone service providers in Kenya. It was also clear that there was a very significant relationship between procurement risk management practices and supply chain performance represented by adjusted R^2 value of 0.646 which translates to 64.6%variance explained by the ten independent practices of Procurement Risk Management. Apopa (2018) sought to examine the influence of supply chain management practices on performance of government ministries in Kenya. Waithira (2018) examined the influence of supplier management on the performance of manufacturing firms in Kenya focusing of supplier appraisal and supply risk analysis

CONCLUSION AND RECOMMENDATIONS

The study concluded that supplier risk management practices significantly determine the supply chain performance of County public referral hospital in Western Region, Kenya. The study found out that carries out identification of potential risk in supply chain, carried out on-site investigation of existence of risk and carried out joint training sessions with our suppliers. However, they moderately carried out joint risk workshops with their suppliers and dual sourcing is fairly preferred to balance risks. This study recommends that the County public referral hospital should formulate policies to enhance frequent identification of potential risk in supply chain and onsite investigation of existence of risk. Further the study also recommended that County public referral hospital should carry out joint risk workshops with our suppliers.

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