

**ASSESSMENT OF FACTORS AFFECTING SUPPLY CHAIN MANAGEMENT PERFORMANCE IN KENYA PUBLIC INSTITUTIONS-A CASE OF THE JUDICIARY****DOREEN NTINYARI MWIRIGI****STUDENT JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY****DR. SUSAN WERE****JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

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**ABSTRACT**

The aim of this study was to investigate factors affecting Supply Chain Management performance within the Kenyan Public Institutions, and covered the case of the Judiciary. The objectives of the study were; establishing the effect of Strategic Supplier Partnerships, Information Sharing, Training and Development and Human Resource Capacity on Supply Chain Management Performance. The study was descriptive by design. There are 159 supply chain management staffs of the Judiciary within the country. Out of these, the researcher randomly sampled 48 staff to which the questionnaires were administered. A cluster sampling methodology which allocates selected samples to existing geographical divisions in the country will be used. Data was collected through the questionnaire which was organized to answer set objectives in the study. Data was analysed using descriptive statistics i.e. frequency distributions and measures of central tendencies. The results of the survey were presented using tables, charts and graphs. The SPSS computer software was used to aid the analysis. The study used ANOVA to test the level of significance of the variables on the dependent variable at 95% level of significance. In addition, the study conducted a multiple regression analysis. The study established that strategic supplier partnership, information sharing, human resource capacity and training and development had a positive influence on supply chain management performance of the Kenya's public Institutions.

**KEYWORDS:** *Supply Chain Management, Training and Development, Public Institutions, Performance, strategic supplier partnership, information sharing and human resource.*

**INTRODUCTION**

Supply chain management (SCM) represents a significant change in the way that organizations view themselves and has witnessed values created through the integration and coordination of

supply, demand and relationships in order to satisfy customers in an effective and profitable manner both in the private and public sectors.

The main way of assessing the supply chain management performance of the public institutions in Kenya would simply involve the perception of the general public concerning; first, that the public procurement and disposal Act 2005 which lays down the various procurement procedures highly (with evidence) facilitates the acquisition process economically, transparently, effectively, fairly and in a timely manner. Secondly, that there are well trained personnel (supply chain management officers) to serve the customers present without delays and therefore minimal complaints. Thirdly, the same supply chain management officers are continually trained and developed so as to stay up to the tasks and challenges that come with their jobs. Fourthly, that the supply chain management officers have unquestionable supplier management skills which goes a great way in boosting public confidence on Public Procurement. Lastly, reduced cases of complaints about flawed supply management practices and reduced Audit queries would equally be indicators that would improve performance of the supply chain management in the public institutions, (I&DA, 2003).

There has been numerous uproar and reports in the Kenyan local publications regarding fraudulent practices in public institutions which further cast doubt on the credibility of the supply chain management performance. The Judiciary being one of the public institutions has been in the limelight for all the wrongs in supply chain management performance. It is an arm of the Kenyan government that derives its mandate from the constitution of Kenya, article 159. Its charged with responsibility of delivering justice to Kenyans and will be a key enabler for the country's vision according to Kenya's vision 2030 blueprint that was launched in 2008. Effective supply chain management in the Judiciary will therefore bring about great positive impact in the achievement of Kenya's vision 2030.

### **Statement of the Problem**

Supply chain management efficiency and effectiveness has profound implications on any organization's ability to meet its customer's demands, its reputation, and its overall financial success (Ambe, 2009). Supply chain management inefficiency presents the single biggest opportunity for operational inefficiencies in any organization Feldman (2003). There has been a rise in complaints by the public, professionals and other stakeholder's about the supply chain management performance within the public institutions in Kenya (G.o.K, 2013. The opinion of many is that supply chain management within the public institutions way below the stakeholders' expectations (Transparency international, 2014).

A strategic partnership between a supplier and the buyer emphasizes direct, long-term association and encourages mutual planning and problem solving efforts (Gunasekaran et al, 2001). Public Institutions in Kenya have for a long time been struggling with serious issues of poor supplier management where cases of malpractices have been reported since there the relationship existing is not based on trust and commitment which has affected the level of service

delivery offered and more so efficiency and effectiveness of the supply chain management. (World Bank, 2013). Public Institutions information sharing is rigid because of the bureaucratic structures and overreliance on manual ways of communication which has affected supply chain management performance because of delay of information from one entity to the other (KNBS, 2014).

According to a report by PSC, (2006), the public service has had capacity issues for a long time. The problem of human resource capacity has not spared the supply chain management officers and other officers involved in SCM in public institutions and in some extreme cases there are not enough people available for appointment to tender committees. This sometimes leads to duplication of appointment to committees which not only affects the performance but also contravenes Part III of the Public Procurement and Disposal Act 2005 (PPDA, 2005); a case where one person is appointed in the evaluation and awarding tendering process subcommittees. Since time immemorial, the public service has been having serious capacity constraints which to a great extent affect service delivery by the few officers involved in SCM within the public institutions hence negating the performance of the whole institution.

Leading companies understand the benefits of staffing their supply chain organizations adequately to make sure that the right people are in the right jobs/teams in the right numbers Gattorna, (2006). Since human resource capacity levels have also been low, the few officers involved in the supply chain management have not been able to perform as expected within the public sector since they are overworked. It is in line with these issues that this study is undertaken to assess the factors that affect supply chain management performance of the Kenya's public Institutions with a focus on the Judiciary.

### **Research objectives**

- i. To examine the effect of strategic supplier partnerships on supply chain management performance of Kenyan Public Institutions.
- ii. To establish the effect of Information sharing on supply chain management performance of Kenyan Public Institutions.
- iii. To investigate the effect of training and development on supply chain management performance of Kenyan Public Institutions.
- iv. To establish the effect of human resource capacity on supply chain management performance of Kenyan Public Institutions.

## **LITERATURE REVIEW**

### **Supply Chain Management Performance**

The public sector is under pressure from both internal and external sources to demonstrate improvements in their performance (McAdam et al. 2005). Local/municipal entities and other government departments are taking an interest in supply chain performance measures and reporting for improving performance and increasing accountability (Barry 2000;).

Public sectors need to review the way they plan, prepare budgets, implement and manage programs and deliver services to meet the government's and citizens' demands for improved performance and accountability. Countries such as Australia, Britain, South Africa and New Zealand have instituted public sector reform to improve their performance and consequently many organizations are going through the process of change management (Boyne 2003).

As part of overall management strategy, the managers of public organizations need to measure performance to evaluate whether departments are effective and efficient, to ensure that the employees are doing the right things, to motivate line staff / middle managers and the stakeholders to do the things necessary to improve performance, to determine the budgeting priorities such as on which programs the agency should be spending the public's money, to convince legislators / stakeholders that the agency is doing a good job, to learn whether the activities are working, and determine exactly who should do what to improve performance (Behn 2003).

Maltz et al. (2003) established that measuring performance has been a challenge for both managers and researchers as the process of 'designing and implementing an effective performance management system' involves 'addressing a number of methodological issues' and managing the change process. In spite of having workable performance management systems in place in public organizations, 'many of those systems fall apart' before they are complete and also there are others who 'end up installing a system that is not helpful or is simply not used effectively' (Poister 2003).

2.4 Operational Framework

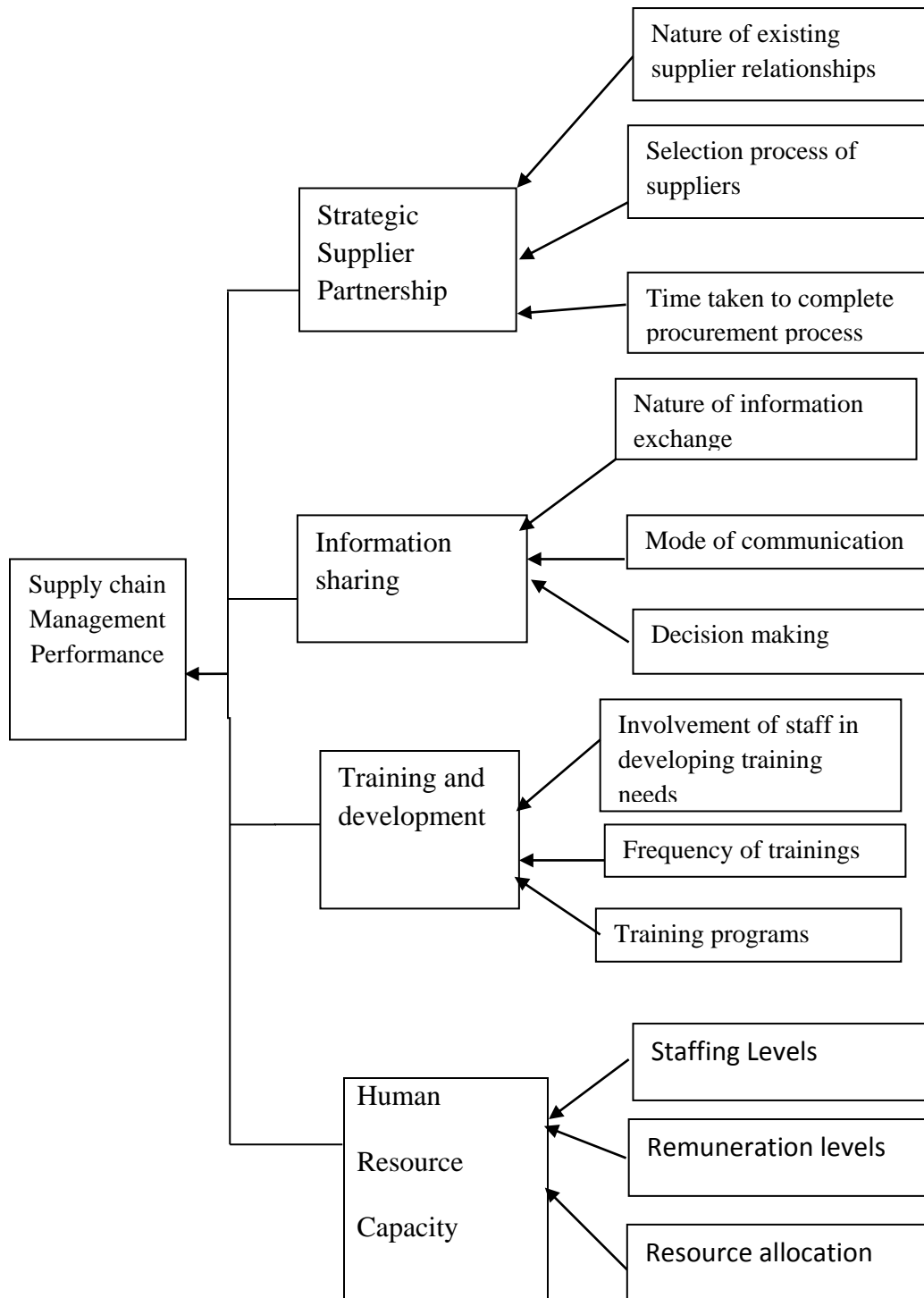


Figure 2. 1. Operational Framework

According to Wognum et al.(2002), findings of his study point out that traditional communication methods and advanced communication methods are used in combination in helping decision making. The study revealed that technology cannot work independent of the informal ways of communication, further revealing that both complement each other.

In his study for managing and controlling public sector supply chains, Ambe(2009) revealed that in an increasingly competitive global environment, the public sector's vision for the public service should have good leadership capabilities at all levels. The study recommended that in order to maintain performance in the public supply chain management, it is necessary to have access to a sufficient stock of well-trained personnel. Recruitment standards should be set high. Furthermore, staff should receive support to upgrade qualifications. Middle and senior management training should be of a high priority.

In their study Zhenxin et al (2001) illustrates the benefits of supply chain partnerships based on information sharing. The study further found out that a close relationship means that channel participants share the risks and rewards and have willingness to maintain the relationship over the long term. Zaheed et al(2010), in their conceptual study provide some useful insights to compare the potential costs associated with different sourcing strategies and the companies will gain benefits by placing a larger volume of business with fewer suppliers using long-term contracts. Furthermore, through a well-developed long-term relationship, a supplier becomes part of a well-managed supply chain and "it will have a lasting effect on the competitiveness of the entire supply chain".

Freires and Guedes(2008) in their study described and analyzed the influence of power and the trust among players over performance (effectiveness and efficiency) of Reverse Logistics Systems. The study further found out that a long-term perspective between the buyer and supplier increases the intensity of buyer-supplier coordination.

According to a study by Shore and Venkatachalam (2003) their findings show that although it was confirmed that the rich experience of firms with ERPs tend to deliver higher overall performance, no evidence was found of a similar effect on supply chain performance. On the contrary EDI adopters perceived more operational benefits, more external pressure and mutual understanding, and fewer technical and organizational difficulties than non-adopters of EDI.

To respond productively to rapid change, a company must "be aware of new information generated in its environment and adopt structures that enable fast decision making and practices that reduce information overload. For this reason, companies are investing heavily in information technologies to enhance their ability to manage information and knowledge across the supply chain. Graemlet al(2009) studied about the impact of the Internet and other information technologies on supply chain management, as perceived by managers in the field.

Many managers mistakenly concentrate their information sharing on only the hardware and software, ignoring the decision-making in the information sharing process. Sum et al (1995) suggested that what makes the performance difference is how information is used. The study further found that data accuracy is critical in affecting operating efficiency and customer service.

In their study, Zaheed et al (2010) concluded that the buyer-supplier relationship has a strong influence on supplying firm's performance. As highlighted in their study, the effect of buyer-supplier close contact or partnership relationship and its positive impact on buying firms operational performance, the result of supplying firm's performance is a further addition to previous work. The result indicated that if there is a close dyadic relationship between the buyer/ manufacturer and supplier, the supplier's response to buying firms needs is improved.

### **Research Methodology**

The study adopted a descriptive survey design. The sample of 48 respondents from a population of 159 form 30% of the target population which fulfills a minimum thresholds sample suggested by Patton (2002) who recommended 30% of the target population as adequate sample size. The researcher used questionnaire as the research instrument. All the data collected through the questionnaires and key informants were edited for completeness and consistency to validate the initial field findings. Data entry was done in a designed SPSS template through variable definition files generated from the questionnaires. Qualitative and quantitative data was analyzed using descriptive and inferential statistics. Regression model was used to establish the effect of various on Supply Chain Management Performance, detailed in the conceptual framework.

### **Summary of the Findings**

From the analysis and data collected the following discussions, conclusions and recommendations were made. The responses were based on the objectives of the study. This study sought to determine the factors that affect supply chain management performance of the Kenya's public Institutions with a focus on the Judiciary. The specific objectives were; to examine the effect of strategic supplier partnerships on supply chain management performance of Kenyan Public Institutions; to establish the effect of Information sharing on supply chain management performance of Kenyan Public Institutions; to investigate the effect of training and development on supply chain management performance of Kenyan Public Institutions and to establish the effect of human resource capacity on supply chain management performance of Kenyan Public Institutions.

### **Strategic Supplier Partnerships**

The study established that Strategic Supplier Partnerships affects supply chain management performance of Kenyan Public Institutions to a great extent; the study revealed that information exchange between public institutions and the stakeholders is accurate, timely and flexible. The study further showed that the relationship between the supply chain management and the

suppliers is based on trust and commitment and there is a formal way of selection of suppliers with clearly defined objectives within the Judiciary. Strategic partnerships with suppliers enable organizations to work more effectively with a few important suppliers who are willing to share responsibility for the success of the products. The study established that the Judiciary takes 61-90 days to pay their suppliers after invoicing. This is clearly indicated that public institutions pay their suppliers after a period not exceeding 3 months. Strategically aligned organizations can work closely together and eliminate wasteful time and effort.

### Information sharing

The study established that the Judiciary use formal communication and the use telephone calls is the most preferred mode of communication in the Judiciary. The study established that Information sharing affects supply chain management performance of Kenyan Public Institutions to a great extent, the study revealed that public Institutions heavily rely on manual ways of communication and information sharing and this has affected supply chain management performance because of delay of information from one entity to the other.

### Human Resource Capacity

The study established that Human Resource Capacity affects supply chain management performance of Kenyan Public Institutions to a great extent; the study also revealed that supply chain organizations makes sure that the right people are in the right jobs/teams in the right numbers. The study found that Consultation with departments in regard to recruitment improve the SCM Performance of Public Institutions.

### Training and Development

The study established that training and development affects supply chain management performance of Kenyan Public Institutions to a great extent, the study also revealed that most of the respondents were diploma certificates holders. The study showed that most public institutions staff are not registered as members of professional bodies. The study further revealed that SCM staff attend training/workshop on supply chain management to improve adaptability and flexibility of the employee and their responsiveness to innovation. Training is also regarded as a means of engaging the commitment of the employees to the organization. Most organizations require their employees to undergo training in line with the training needs assessment conducted by human resource development staff.

### Regression Analysis

**Table 4. 1: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.898 <sup>a</sup>	.806	.801	.19758



**Source, Author (2014)**

Adjusted  $R^2$  which is termed as the coefficient of determination tells us how SCM Performance of Public Institutions varied with strategic supplier partnership, information sharing, human resource capacity and training and development. According to the findings in the table above, the value of adjusted  $R^2$  is 0.801. This implied that there was a variation of 80.1% of SCM Performance of Public Institutions with strategic supplier partnership, information sharing, human resource capacity and training and development at a confidence level of 95%. R is the correlation coefficient which showed that there was a strong correlation between the study variable as shown by the correlation coefficient of 0.898.

**Table 4. 2: ANOVA**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	0.744	6	0.372	2.88	.048 <sup>b</sup>
Residual	23.091	178	0.129		
Total	23.835	184			

**Source, Author (2014)**

From the ANOVA statistics below the processed data which is the population parameters, had a significance level of 4.8% which showed that the data was ideal for making conclusions on the population's parameter as the value of significance (p-value) was less than 5%. The calculated was greater than the critical value ( $2.88 > 2.60$ ) an indication that strategic supplier partnership, information sharing, human resource capacity and training and development significantly influence SCM Performance of Public Institutions. The significance value was less than 0.05 an indication that the model was significant.

Table 4. 3: Coefficients

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	.233	.172		1.847	.000
	Strategic supplier partnership	.142	.082	.132	1.739	.034
	Information sharing	.643	.082	.586	7.835	.000
	Human Resource Capacity	.232	.083	.246	2.806	.006
	Training & Development	.162	.063	.223	2.583	.011

**Source, Author (2014)**

$Y_s = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$  become:

$$Y_s = 0.233 + 0.142X_1 + 0.643X_2 + 0.232X_3 + 0.162X_4$$

Where Y is the dependent variable (SCM Performance of Public Institutions),  $X_1$  is the strategic supplier partnership,  $X_2$  is information sharing,  $X_3$  is human resource capacity,  $X_4$  is training and development. According to the regression equation established, taking all factors into account at zero (strategic supplier partnership, information sharing, human resource capacity and training and development), the SCM Performance of Public Institutions will be 0.233. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in strategic supplier partnership systems will lead to a 0.142 increase in the SCM Performance of Public Institutions; a unit increase in information sharing will lead to a 0.643 increase in the SCM Performance of Public Institutions; a unit increase in human resource capacity will lead to a 0.232 increase in SCM Performance of Public Institutions and a unit increase in training and development will lead to a 0.162 increase in SCM Performance of Public Institutions. At 5% level of significance and 95% level of confidence; information sharing systems showed a 0.00 level of significant; Human Resource Capacity showed a 0.006 level of significant and Training & Development showed a 0.011 level of significant and Strategic supplier partnership showed a 0.034 level of significant. This therefore shows that information sharing is the most significant factor influencing SCM Performance of Public Institutions among the four studied factors. In addition, this infers that information sharing contribute more to the SCM Performance of Public Institutions in Kenya.

### **Conclusions**

From the findings the study concluded that strategic supplier partnership, information sharing, human resource capacity and training and development had a positive influence on supply chain management performance of the Kenya's public Institutions. Strategic supplier relationship is positive but weak. The level of significance of 0.34 is higher compared to the level of significance of other variables. This can be explained by the fact that payment of suppliers after invoicing take between 61-90 days. The length of time taken to complete procurement process affects the efficiency and effectiveness of staff activities. The study further concluded that special agreements between institutions and suppliers improve SCM performance.

The study concluded that training improves current or future employee performance by increasing an employee's ability to perform through learning, usually by changing the employee's attitude or increasing his or her skills and knowledge.

A strong relationship between information sharing and supply chain management performance was established from the analysis. This is evidenced by the formal ways of communication and response on any communicated issued between staff being taken within a day.

### **Recommendations**

The study recommended that review of duration of payment to suppliers after invoicing should be done to lesser days, so as to strengthen the relationship between the suppliers and public institutions. This also would lead to improved reputation and confidence of public institutions by the stakeholders.

It is recommended there should be a flexible, accurate and timely information flow between the suppliers and public institutions. This reduces the time it takes for procurement process to be completed and more so timely delivery of the requirements to the customers. The heavy reliance on manual ways of communication and information should be addressed by investing in integrated systems that link the key stakeholders in order to shorten the length of time taken to complete processes, and also to enhance records management for easier retrieval and decision making.

The study recommended that staff be motivated in terms of training incentives through offering scholarships, study leave and sponsoring staff on registration to professional bodies like Chartered Institute of Purchasing and Supplies(CIPS) and Kenya Institute of Supplies Management(KISM).The study recommended for further training in relevant areas of supply chain management because it is regarded as a means of engaging the commitment of the employees to the organization thus increasing their productivity.The kinds of trainings should include in house and on-the-job training to equip the SCM with knowledge of the environment they are operating in and be more practical and realistic in responding to the needs of the customers.

Public Institutions should make sure that SCM is staffed with the right people with the right jobs/teams and in the right numbers, to ensure that workload is manageable and performance is improved. Staff skills and backgrounds should be systematically assessed before placement in the supply chain management function and it can be achieved through staffing workshops and training programs.

### **Recommendations for Further Studies**

The study aimed at investigating the factors that affect supply chain management performance of the Kenya's public Institutions with a focus on the Judiciary. The study was only carried out by interviewing Supply Chain Management staff of the Judiciary thus the same study should be carried out in the other public institutions to find out if the same results will be obtained. Equally there is room for further research on external factors that affect supply chain management performance of the Kenya's public Institutions.

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