EFFECT OF PROCUREMENT AUDIT PRACTICES ON THE PERFORMANCE OF SUPPLY CHAIN MANAGEMENT AT KENYA RAILWAYS CORPORATION

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ABSTRACT
The purpose of this study was to examine the effect of procurement audit practices on the performance of supply chain management at the Kenya Railways Corporation. The specific objectives of the study were: i) to determine how compliance audit of the procurement system affect the performance of supply chain management at Kenya Railways Corporation, ii) to establish the effect of risk management audit of the procurement system on the performance of supply chain management at Kenya Railways Corporation, iii) to examine the effect of the systems audit on the performance of supply chain management at Kenya Railways Corporation, iv) to establish the effect of monitoring and evaluation of the performance of supply chain management at Kenya Railways Corporation. The study adopted a descriptive design. The target population comprised of staff in the procurement and audit departments at Kenya Railways Corporation. The unit of analysis was the Kenya Railways and the unit of objectivity being 82 procurement and audit department staff. The study intended to carry out a census of all the 82 staff in the procurement and audit departments. The main tool for data collection in this study was structured questionnaire. Data was analysed using descriptive statistics (Frequencies, percentages, mean and standard deviation) and inferential statistics. A good response rate of 82.9% was realized. It was established that most of the procurement audit indicators had positive impact on supply chain performance of the firm. The study further adopted a regression analysis to determine the relationship between the variables at 5% confidence level of significance. The study findings showed that the four variables had a significant influence on supply chain performance of Kenya Railways.

Key Words: Procurement Audit Practices, Compliance Audit, Risk Management Audit, Systems Audit, Monitoring and Evaluation, Performance of Supply Chain Management

INTRODUCTION

Procurement audit has not been given the recognition it deserves in developing countries, in most public and private entities like the World Bank, the international trade organisation, the united conference on trade and organisation. This could be a deliberate or shear ignorance on the value of procurement audit could contribute to the performance of supply chain (Telgen, Zomer & De Boer, 2011). The need to have coherent method of performance of supply chain in public entities particularly in developing countries has never been sound as it is now delaying and will worsen the already deteriorating performance, loss of professionals will continue incurring unnecessary costs (DCD/DAC 2010). However it is important that appropriate procurement audit practices be implemented. The issue of basing on non-financial performance and neglecting or ignoring procurement audit is not helping the supply chain performance (Lardonoije, VaanRaaij & Van Weele, 2011).

Around the world, public sector organizations are experiencing an unprecedented pace of change and as a result, they are rapidly re-evaluating their operating models and market strategies not just to withstand these market forces but to capitalize on them. Procurement audit has a significant role to play in helping the public sector achieve their objectives and prepare for the uncertainty a head (Leenders et al., 2008).

Most developing countries are facing a problem of rapid changes in procurements which are imparting pressure on how the procurement function performs its internal and external processes in order to achieve its objectives (Wambui, 2013). African countries have undertaken a number of reforms of their public financial management, particularly its procurement systems. The reform programs have provided comprehensive administrative and legal framework for public procurement. New institutions such as the public procurement authority and the appeals and complaints panel have been set up to formalise and improve procurement performance (Honkaniemi, 2010).

In Kenya, all public procurements are regulated by Public Procurement Oversight Authority (PPOA) (King’oo, 2010). A great potential exists for the public sector in the form of supply chain management performance and the leveraging, combining, and capitalizing on complementary strengths and capabilities in procurement audit practices (Heller, 2013).

According to Ochieng and Muehle (2012), the Public Procurement System in Kenya has evolved from a crude system with no regulations to an orderly legally regulated procurement system. Government’s Procurement system was originally contained in the Supplies Manual of 1978; The Director of Government Supply Services was responsible for ensuring the proper observance of the provisions of the Manual (PPOA 2010). All the aforesaid reform initiatives were geared towards improving the public procurement system by enhancing accountability and transparency with the aim of achieving value for money, and attracting investments by creating sound business climate.

These reforms have ensured fairness and competition among suppliers of goods, works and services, thereby restoring the confidence of Kenyans in the public procurement process while at the same time ensuring that the Government gets the best value for its money (PPOA, 2007). This led to the creation of the Public Procurement Oversight Authority (PPOA) to oversee public procurement system with its principal functions of ensuring that the public procurement law is complied with and capacity of the function among stakeholders is enhanced (PPOA, 2010).

Problem Statement

Procurement audit practices aims to support managers in process optimization and above all in cost reduction which results from an uncertain environment by evaluating and directing
management towards approaches which will prevent or reduce negative effects (Pasula et al., 2013). An effective SCM ensures availability of the right goods or services in the right quantities, available at the right time, for the right place and at reasonable prices, and at recognizable standards of quality (PPOA, 2010).

Supply chain management in the Kenyan public sector has experienced lack of direction, poor coordination, and lack of open competition, transparency and corruption. In addition, inflexible and bureaucratic systems of SCM in the public sector have contributed to unacceptable contract delays, increased costs and potential for manipulation, creating a perception that public expenditure is low ineffective, expensive and often corrupt calls for implementation of supply chain governance mechanism (Ngugi & Mugo, 2011). The general weaknesses in Kenya like the insufficient implementation of laws and regulation in daily administrative actions, the culture of impunity and the wide spread culture of corruption are the main obstacles for a sweeping success of the reforms efforts (Ochieng & Muehle, 2012). Hence the need for procurement audit practices: compliance audit which will ensure effectiveness on the checks and balances of the process for continuous improvement. Risk management will ensure the organisation mission and vision is realised at the minimum cost possible thereby realising the time value for money. Systems audit will ensure the gaps parameter are efficiently reduced to realise standard that will ensure seamless movement of decisions and action at the required appropriate timing. Monitoring and evaluation which will actualise the process of continuous improvement of performance in the supply chain

With the increased demand for better services in the public sector, there is need to effectively manage the supply chains performance. According to King’oo (2010), supply chain management within the public sector in Kenya has not been well covered in empirical studies. The empirical studies in on supply chain management in Kenyan have not focused in the nexus between procurement audit practices and the performance of supply chain in the public sector. Therefore this study sought to bridge the research gap by determining the effect of procurement audit the effect of procurement audit practices on the performance of supply chain management at Kenya Railways Corporation.

Objectives of the Study
The main objective of the study was to determine the effect of procurement audit practices on the performance of supply chain management at Kenya Railways Corporation. The specific objectives were:-

- To determine how compliance audit of the procurement system affect the performance of supply chain management at Kenya Railways Corporation.
- To establish the effect of risk management audit of the procurement system on the performance of supply chain management at Kenya Railways Corporation.
- To examine establish the effect of the systems audit on the performance of supply chain management at Kenya Railways Corporation.
- To establish the effect of monitoring and evaluation of the performance of supply chain management at Kenya Railways Corporation.

LITERATURE REVIEW

Theoretical Framework

Agency Theory
The study used the agency theory as a theoretical foundation to analyse the effect of audit reporting and compliance audit of the procurement system on the performance of supply chain management at Kenya Railways Corporation. An agency relationship is a contract under which one or more persons (principals) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent (Jensen, 2006).

Consistent with the tenets of agency theory, the view adopted here assumes that agents, purchasing officials, are rational, self-interested utility
maximizes (Alchian, 1972). Agents behave selfishly and do so with guile. In other words, they are opportunistic in the sense that they shirk in a self-interested manner by trying to minimize effort if it fulfills their own benefit. It is not assumed that they will willingly misrepresent or lie about that effort (Arrowsmith 2010). It is assumed that the principal and agent do not share the same levels of information, as such, the agent can take advantage of the situation, hence becoming a negative for the principal. This latter situation is known as moral hazard and is often the result of asymmetric information (Fama, 2003).

The theory on the other hand suggests that whether or not these entities are from the same government or from different governments, the potential that government entities may or may not have similar goals is present. Consequently, the relationship modelled here suggest that governments, could be at cross-purposes so that there may be times when cooperative public purchasing is not mutually advantageous, if not outright competitive (Kimalu, 2002). The multiple layers of principals and agents make organizational responsiveness and maintaining transparency difficult for any purchasing decision (Jensen, 2006).

The Contract Theory
The study uses contract theory to lay foundation for the analysis of the effect of risk management audit of the procurement system on the performance of supply chain management at Kenya Railways Corporation. The contract theory Due to its relationship with both agency and motivators, it’s often classified in the area of economics and law, it observes how economic actors are capable of and develop contractual arrangements with asymmetrical information.

The important but common assumption in the theory lies on the concept that the incentive contract is applicable under low costs and that the contactor is liable for any contracted work basically through the court (Krugman, 2013). The substandard service nevertheless, is not always the case, delivered by the contractors has resulted to criminality of many (Krugman, 2013). Contract theory, is based on two critical issues enforce ability and accountability. Institutions can’t afford to engage in contacts that will fail or lead to major failures among the associated parties. Therefore in such adverse situations, based on this theory, contractors have to include risk premiums as they are accountable of every action. Secondly, this is a suitable solution to a reasonable intensity of risk. However, Wenz (2011) argues that, if the risk is bigger in the light of such contract risk, a compatible risk premium might be unavailable to cover the risk.

Theory of Innovation
The theory of innovation analyses of the effect of the audit of the procurement ICT system on the performance of supply chain management at Kenya Railways Corporation. This from the heterodox and evolutionary standpoints reflecting from the theoretical stand innovation-theory basics taking into account the following key categories: relationship between the development stage technology (basic research, feasibility studies, prototype development, diffusion, maturity) and associated government and risks market positions (monopsony, oligopoly, polyphony) in terms of the orientation of innovation in public procurement potential (Fama, 2003). When a government has a monopolistic position and targets technology early in its cycle the highest potential to spur innovation is realised.

Technology can support innovation by easing the measurement of performances. It creates new value by modern sourcing or the availability of purchasing tools (e-procurement). Technology also offers new web-based tools to gather, interpret and share procurement related information (Spray, 2009). E-sourcing is an easy means for suppliers to bid for contracts online through reverse auctions or by submitting electronic requests for projects, quotes, and information. It provides suppliers the information they need. It brings standardization into a function which is ad hoc (Ghahremani, 2008).
Electronic-sourcing software vendors claim users can negotiate 10 to 20 percent in savings. Furthermore, E-sourcing allows firms to measure their suppliers on a score card which they can share to them (Ghahremani, 2008).

**Conceptual framework**

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variable</th>
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<tbody>
<tr>
<td>Performance of Supply Chain Management</td>
<td>Cost</td>
</tr>
</tbody>
</table>

**Electronicsourcing software vendors claim users can negotiate 10 to 20 percent in savings. Furthermore, E-sourcing allows firms to measure their suppliers on a score card which they can share to them (Ghahremani, 2008).**

Wilson (2008) indicates that procurement risk management is as much an art as it is a science that should be running top on procurement’s mind as a key management concern. Procurement risk exists for an organization when supply market behaviour, and the organization’s dealings with suppliers, create outcomes which harm company reputation, capability, operational integrity and financial viability.

Accenture (2010) identifies these procurement risks as; a company's dependency on a supplier, unanticipated price volatility of raw material, supplier quality problems, supply chain disruptions, unanticipated price volatility through currency exchange rates, supplier bankruptcy, legal/regulatory issues and supplier dependency on a company. Procurement risk management practices are the measures taken including changes to behaviours, procedures and controls which remove procurement risks or reduce them to what is considered to be an acceptable level.

Shale (2015) studied the role of e-procurement strategy on the performance of state corporations in Kenya. The study adopted a cross-sectional survey. The study findings revealed that customer service level strategy, procurement cost reduction strategy, inventory optimizations strategy, buyer/supplier collaboration strategy and audits and compliance strategy significantly affect performance of state corporations. The study recommended that state corporation should have a good e-procurement software system as it would help them greatly reduce the time and effort required to complete purchasing transactions by eliminating traditional paper chain of requisitions, approvals, receiving and payment reconciliation.

Amayi (2011), in his study found that procurement operations require better performance control system. Amayi (2011), asserted that a records management system that an organisation adopts
has effects on its procurement operations. The researcher concluded that without ethics the performance of procurement operations would be negatively affected and pointed out that existing legal framework was an impediment to the performance of operations in the public procurement.

Government monitoring and evaluation systems in Africa operate in complex terrain (Benington & Moore, 2011). To some extent they are hostages to other forces in government, nevertheless given a results-driven reform agenda, incentives can be put in place for the evidence generated to support developments in delivery, budgeting, and monitoring and evaluation are consistently designed to support valued change in people’s lives, particularly the underprivileged. In effect, the tools of governance are aligned to citizenry, not internal bureaucratic desires.

Project monitoring and evaluation performance can be measured and evaluated using a large number of performance indicators that could be related to various dimensions (groups) such as time, cost, quality, client satisfaction, client changes, business performance, health and safety (Nabulu, 2015). Time, cost and quality are, however, the predominant performance evaluation dimensions. Another interesting way of evaluating project performance is through common sets of indicators (Pheng and Chuan, 2006). The first set is related to the owner, users, stake - holders, and the general public; the groups of people, who will look at project performance from the macro viewpoint. The second set comprises the developer and the contractor; the groups of people who will look at project performance from the micro viewpoint ore indicators and could be influenced by various project characteristics.

Maina (2011) in his study found that weak oversight and enforcement, non-transparent practices, lack of effective links between procurement and financial management, poor record management and filing system, and delays and inefficiencies on the implementation of the procurement legislation. The study concluded inefficiencies in procurement led to increased procurement costs, causing longer cycle times, lower quality purchasing decisions within the ministry.

METHODOLOGY
The study adopted a descriptive design. The descriptive approach is concerned with answering questions such as who, how, what, which, when and how much (Cooper & Schindler, 2011). The target population comprised of staff in the procurement and audit departments at Kenya Railways Corporation. The unit of analysis was the Kenya Railways and the unit of objectivity being 82 procurement and audit departments staff at Kenya Railways Corporation. The study adopted a census technique with respect to the unit of analysis which is the tertiary institutions in Kenya. The main tools for data collection in this study were structured questionnaire. Pilot study was conducted to test the reliability and validity of the questionnaire. Data was analysed using descriptive and inferential statistics.

FINDINGS
Compliance audit
Descriptive analysis was conducted for the study variable compliance audit. The results presented in Table 1 revealed that majority of the respondents who were 83.6% (47.90%+35.70%) agreed that the Supply chain team adhere to the required policies and procedures thus improve supply chain management performance. The statement response had a mean score of 4.05 and a standard deviation of 1.03.Further, the results indicated that majority of the respondents (84.3%) agreed that Supply chain team safeguards and uphold the audit record for continuer’s improvement of supply chain management performance. The statement response had a mean score of 4.05 and a standard deviation of 1.03.Further, the results indicated that majority of the respondents (84.3%) agreed that Supply chain team safeguards and uphold the audit record for continuer’s improvement of supply chain management performance. The statement response had a mean score of 4.05 and a standard deviation of 1.03.
management performance. The responses on this statement had a mean of 3.80 and a standard deviation of 1.24. In addition, the results established that majority of the respondents (70%) agreed that the control mechanisms are effective to safeguard all (SCM) performances. The responses on this statement attracted a mean score of 3.76 and a standard deviation of 1.20. Moreover, the results revealed that majority of the respondents (72.1%) agreed that the performance of (SCM) is greatly hindered without proper compliant planning cycle. The mean of the responses on this statement was 3.71 and the standard deviation was 1.23.

Table 1: Compliance Audit

<table>
<thead>
<tr>
<th>Statements</th>
<th>strongly disagree</th>
<th>disagree</th>
<th>uncertain</th>
<th>agree</th>
<th>Strongly agree</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply chain team adhere to the required policies and procedures</td>
<td>5.0%</td>
<td>4.3%</td>
<td>7.1%</td>
<td>47.9%</td>
<td>35.7%</td>
<td>4.05</td>
<td>1.03</td>
</tr>
<tr>
<td>Supply chain team safeguards and uphold the audit record</td>
<td>3.6%</td>
<td>5.7%</td>
<td>6.4%</td>
<td>51.4%</td>
<td>32.9%</td>
<td>4.04</td>
<td>0.97</td>
</tr>
<tr>
<td>Supply chain team adheres to the internal systems in the organisation</td>
<td>7.1%</td>
<td>11.4%</td>
<td>11.4%</td>
<td>34.3%</td>
<td>35.7%</td>
<td>3.80</td>
<td>1.24</td>
</tr>
<tr>
<td>The control mechanisms are effective to safeguard all (SCM) performances.</td>
<td>7.9%</td>
<td>8.6%</td>
<td>13.6%</td>
<td>39.30%</td>
<td>30.7%</td>
<td>3.76</td>
<td>1.20</td>
</tr>
<tr>
<td>The performance of (SCM) is greatly hindered without proper compliant planning cycle.</td>
<td>10.7%</td>
<td>6.4%</td>
<td>10.7%</td>
<td>45.7%</td>
<td>26.4%</td>
<td>3.71</td>
<td>1.23</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.93</td>
<td>1.10</td>
<td></td>
</tr>
</tbody>
</table>

Risk Management

Descriptive analysis was conducted for the study variable risk management. The results presented in Table 2 revealed that majority of the respondents who were 60.8% (27.90%+32.90%) agreed that KRC ensures that the ineffective oversights are screened and detected as soon as they occur to enhance (SCM) performance. The statement response had a mean score of 3.55 and a standard deviation of 1.40. Further, the results indicated that majority of the respondents (70.7%) agreed to the statement that the organisation budgets and allocates enough resources for Procurement audit hence therefore elevating the performance of (SCM). The statement response had a mean score of 3.83 and a standard deviation of 1.24. Furthermore, the results revealed that majority of the respondents who were 70.7% agreed that the procurement process and system transparency is equitable to all the public and the organisation (internal and external) to enhance supply chain. The responses on this statement had a mean of 3.54 and a standard deviation of 1.33. In addition, the results established that majority of the respondents (63.5%) agreed that KRC does not advocate for tender splitting which hinders supply chain performance. The responses on this statement attracted a mean score of 3.59 and a standard deviation of 1.16. Moreover, the results revealed that majority of the respondents (65.7%) agreed that the decision-making organ is readily available and performs on time to avert problem from occurrence that may hinder an uplift of supply chain performance. The mean of the responses on this statement was 3.66 and the standard deviation
was 1.25. This indicated that although majority of the respondents were agreeing to the statement, the responses were varied but with a low variation.

Table 2: Risk Management

<table>
<thead>
<tr>
<th>Statements</th>
<th>strongly disagree</th>
<th>disagree</th>
<th>uncertain</th>
<th>agree</th>
<th>Strongly agree</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>KRC ensures that the ineffective oversights are screened and detected</td>
<td>13.6%</td>
<td>11.4%</td>
<td>14.3%</td>
<td>27.9%</td>
<td>32.9%</td>
<td>3.55</td>
<td>1.40</td>
</tr>
<tr>
<td>The organisation budgets and allocates enough resources</td>
<td>8.6%</td>
<td>7.1%</td>
<td>13.6%</td>
<td>34.3%</td>
<td>36.4%</td>
<td>3.83</td>
<td>1.24</td>
</tr>
<tr>
<td>The procurement process and system transparency is equitable</td>
<td>10.0%</td>
<td>15.7%</td>
<td>13.6%</td>
<td>31.4%</td>
<td>29.3%</td>
<td>3.54</td>
<td>1.33</td>
</tr>
<tr>
<td>KRC does not advocate for tender splitting</td>
<td>7.9%</td>
<td>10.0%</td>
<td>18.6%</td>
<td>42.1%</td>
<td>21.4%</td>
<td>3.59</td>
<td>1.16</td>
</tr>
<tr>
<td>The decision-making organ is readily available</td>
<td>8.6%</td>
<td>11.4%</td>
<td>14.3%</td>
<td>37.1%</td>
<td>28.6%</td>
<td>3.66</td>
<td>1.25</td>
</tr>
<tr>
<td>The SCM team follow the guidance and recommendations of past audits</td>
<td>12.9%</td>
<td>14.3%</td>
<td>14.3%</td>
<td>26.4%</td>
<td>32.1%</td>
<td>3.51</td>
<td>1.40</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>12.9%</strong></td>
<td><strong>14.3%</strong></td>
<td><strong>14.3%</strong></td>
<td><strong>26.4%</strong></td>
<td><strong>32.1%</strong></td>
<td><strong>3.51</strong></td>
<td><strong>1.40</strong></td>
</tr>
</tbody>
</table>

System Audit

Descriptive analysis was conducted for the study variable system audit. The results presented in Table 3 revealed that majority of the respondents who were 80.7% (45.00%+35.70%) agreed that the internal interoperability of the SCM system is sound and effective to ensure proper supply performance. The statement response had a mean score of 4.04 and a standard deviation of 1.00.

Further, the results indicated that majority of the respondents (73.6%) agreed to the statement that the internal security system is up to task and flexible enough to safeguard all transactions of SCM hence enhancing performance. The statement response had a mean score of 3.86 and a standard deviation of 1.17.

Furthermore, the results revealed that majority of the respondents who were 72.8% agreed that the internal system enhances business continuity competitively and supply chain performance. The responses on this statement had a mean of 3.79 and a standard deviation of 1.20.

In addition, the results established that majority of the respondents (80%) agreed that the standards in place are favourable to high standards of SCM performance. The responses on this statement attracted a mean score of 3.99 and a standard deviation of 0.96. Moreover, the results revealed that majority of the respondents (73.5%) agreed that the system is highly maintained and the loop holes and bottlenecks are dealt with in time hence maintaining a dependable to actualise supply chain performance. The mean of the responses on this statement was 3.88 and the standard deviation was 1.08.
Table 3: System Audit

<table>
<thead>
<tr>
<th>Statements</th>
<th>strongly disagree</th>
<th>disagree</th>
<th>uncertain</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The internal interoperability of the SCM system is sound and effective</td>
<td>2.9%</td>
<td>7.1%</td>
<td>9.3%</td>
<td>45.0%</td>
<td>35.7%</td>
<td>4.04</td>
<td>1.00</td>
</tr>
<tr>
<td>The internal security system is up to task and flexible enough</td>
<td>5.7%</td>
<td>10.7%</td>
<td>10.0%</td>
<td>39.3%</td>
<td>34.3%</td>
<td>3.86</td>
<td>1.17</td>
</tr>
<tr>
<td>The Internal system enhances business continuity competitively</td>
<td>7.9%</td>
<td>8.6%</td>
<td>10.7%</td>
<td>42.1%</td>
<td>30.7%</td>
<td>3.79</td>
<td>1.20</td>
</tr>
<tr>
<td>The standards in place are favourable to high standards of SCM performance</td>
<td>2.1%</td>
<td>7.9%</td>
<td>10.0%</td>
<td>49.3%</td>
<td>30.7%</td>
<td>3.99</td>
<td>0.96</td>
</tr>
<tr>
<td>The system is highly maintained and the loop holes and bottlenecks are</td>
<td>3.6%</td>
<td>10.0%</td>
<td>12.9%</td>
<td>42.1%</td>
<td>31.4%</td>
<td>3.88</td>
<td>1.08</td>
</tr>
<tr>
<td>dealt with in time</td>
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<tr>
<td><strong>Average</strong></td>
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<td></td>
<td></td>
<td></td>
<td><strong>3.83</strong></td>
<td><strong>1.13</strong></td>
</tr>
</tbody>
</table>

Monitoring and Evaluation

Descriptive analysis was conducted for the study variable monitoring and evaluation. The results presented in Table 4 revealed that majority of the respondents who were 80.8% (47.90%+32.90%) agreed that The major and minor adjustments to procurement are relevant to audits performed previously to encourage performance change in supply chain. The statement response had a mean score of 3.94 and a standard deviation of 1.11. Further, the results indicated that majority of the respondents (78.6%) agreed to the statement that there is a realisation of an upward shift in performance of SCM after audits more especially financial Audit. The statement response had a mean score of 3.94 and a standard deviation of 1.13. Furthermore, the results revealed that majority of the respondents who were 77.8% agreed that the post audit meetings held quarterly were able to track efficient on the submissions brought forward from past meetings to guarantee continuing supply chain performance. The responses on this statement had a mean of 3.85 and a standard deviation of 1.18. In addition, the results established that majority of the respondents (75%) agreed that Financial audits being reflected directly to procurement performance system is sustainable for proper decision making. The responses on this statement attracted a mean score of 3.75 and a standard deviation of 1.15. Moreover, the results revealed that majority of the respondents (80%) agreed that the organisation always has post audit meetings to review the changes if they are working effectively for supply chain performance. The mean of the responses on this statement was 3.99 and the standard deviation was 1.03.

Table 4: Monitoring and Evaluation

<table>
<thead>
<tr>
<th>Statements</th>
<th>strongly disagree</th>
<th>disagree</th>
<th>Uncertain</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The major and minor adjustments to procurement are relevant</td>
<td>5.7%</td>
<td>8.6%</td>
<td>5.0%</td>
<td>47.9%</td>
<td>32.9%</td>
<td>3.94</td>
<td>1.11</td>
</tr>
</tbody>
</table>
There is a realisation of an upward shift in performance of SCM:

<table>
<thead>
<tr>
<th></th>
<th>5.0%</th>
<th>10.0%</th>
<th>6.4%</th>
<th>43.6%</th>
<th>35.0%</th>
<th>3.94</th>
<th>1.13</th>
</tr>
</thead>
<tbody>
<tr>
<td>The post audit meetings held quarterly are able to track efficiency</td>
<td>7.9%</td>
<td>7.9%</td>
<td>6.4%</td>
<td>47.1%</td>
<td>30.7%</td>
<td>3.85</td>
<td>1.18</td>
</tr>
<tr>
<td>Financial audits being reflected directly to procurement performance system is sustainable</td>
<td>7.1%</td>
<td>10.0%</td>
<td>7.9%</td>
<td>50.7%</td>
<td>24.3%</td>
<td>3.75</td>
<td>1.15</td>
</tr>
<tr>
<td>The organisation always has post audit meetings</td>
<td>4.3%</td>
<td>5.7%</td>
<td>10.0%</td>
<td>47.1%</td>
<td>32.9%</td>
<td>3.99</td>
<td>1.03</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>3.90</strong></td>
<td><strong>1.14</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Inferential Statistics**

**Correlation Analysis**

Correlation analysis results in table 5 showed that there was a positive and significant correlation between compliance audit and supply chain performance ($r = 0.614$, $p$-value= 0.000). This finding conformed to those of Palmer (2013) who found out that there is a strong relationship between compliance audit and performance of supply chain management. Thus, the findings indicated that compliance audit increased the supply chain performance of the firm. Findings also reveal that there is a positive and significant relationship between risk management and supply chain performance ($r = 0.529$, $p$-value= 0.004). The finding concurred with Karimi Namusonge (2014) findings who also revealed that risk management affected the performance of supply chain management. Thus an increase in risk management results to increase in the supply chain performance of the firm. The correlation between systems audit and supply chain performance is positive and significant ($r = 0.691$, $p$-value= 0.000). Singer (2017) also emphasizes that the scope of systems audit affects the performance of supply chain management in a firm. Thus an increase in systems audits in the firm resulted in an increase in the supply chain performance of the firm. Results, indicate that there was a positive correlation between supply chain performance and monitoring and evaluation ($r = 0.562$, $p$-value=0.005). According to Preuss (2014) monitoring and evaluation enhanced supply chain management performance.

**Table 5: Correlation Matrix for the Study Variables**

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

<table>
<thead>
<tr>
<th></th>
<th>PSCM</th>
<th>Compliance audit</th>
<th>Risk management</th>
<th>System audit</th>
<th>Monitoring and evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSCM</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compliance audit</td>
<td>.614**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk management</td>
<td>.529**</td>
<td>.791</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>System audit</td>
<td>.691**</td>
<td>.832</td>
<td>.729</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Monitoring and evaluation</td>
<td>.562**</td>
<td>.816</td>
<td>.757</td>
<td>.897*</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>.937</td>
<td></td>
<td>.004</td>
<td></td>
</tr>
</tbody>
</table>
Regression Analysis

In statistical modelling, regression analysis is a statistical process for estimating the relationships among variables. It includes many techniques for modelling and analysing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables (or 'predictors'). There are various assumptions for multiple linear regressions. First, it needs the relationship between the independent and dependent variables to be linear. Secondly, the multiple linear regression analysis requires all variables to be normal. Thirdly, multiple linear regressions assumes that there is little or no multicollinearity in the data.

The results presented in table 6 present the fitness of model used in the regression model to explain the study phenomena. Compliance audit, risk management, systems audit, monitoring and evaluation provide a moderately good fit in predicting changes in supply chain performance measured by the profit. This is supported by coefficient of determination also known as the R square of 79.3%. This means that compliance audit, risk management, systems audit and monitoring and evaluation explain 79.3% of the variations in the dependent variable which is supply chain performance of Kenya Railways Corporation. This results further means that the model applied to link the relationship of the variables was satisfactory. This finding is tandem to those of Weeke (2010) who found out that there is a strong relationship between risk management and supply chain performance; therefore the study concluded that the presence of a risk management positively affects supply chain performance in organization.

Table 6: Regression Model Summary

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>.819</td>
</tr>
<tr>
<td>R Square</td>
<td>.793</td>
</tr>
<tr>
<td>Adjusted R Squared</td>
<td>.641</td>
</tr>
<tr>
<td>Std. Error of the Estimate</td>
<td>.21383</td>
</tr>
</tbody>
</table>

a. Predictors : (Constant), compliance audit, risk management, system audit, monitoring and evaluation.

In statistics significance testing the p-value indicates the level of relation of the independent variable to the dependent variable. If the significance number found is less than the critical value also known as the probability value (p) which is statistically set at 0.05, then the conclusion would be that the model is significant in explaining the relationship; else the model would be regarded as non-significant.

Table 7 provided the results on the analysis of the variance (ANOVA). The results indicate that the overall model was statistically significant. The significance value is 0.000 which is less than 0.05, thus the model is statistically significant in predicting how procurement audit affect supply chain performance. Further, the results imply that the independent variables are good predictors of supply chain performance. This was supported by an F statistic of 11.902 and the reported p value (0.000) which was less than the conventional probability of 0.05 significance level. The findings are tandem to Komen (2017) also emphasizes that the scope of systems audit affects the performance of supply chain management in a firm. Thus an increase in systems audits in the firm resulted in an increase in the supply chain performance of the firm.

Table 7: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>23.49</td>
<td>4</td>
<td>5.873</td>
<td>3.994</td>
<td>.000</td>
</tr>
</tbody>
</table>
Regression of coefficients results in table 8 showed that compliance audit and supply chain performance are positively and significantly related ($\beta = 0.345, p=0.003$). The results implied that a unit increase in compliance audit would result to an increase of 0.345 units in performance. Similarly, Vorster (2013) study concluded that compliance audit affected supply chain performance of an organization.

The table further indicated that risk management and supply chain performance are positively and significantly related ($\beta = 0.294, p=0.008$). The results implied that unit increase in risk management would result to an increase of 0.294 units in performance. This finding conforms to those of Weele (2010) who found out that there is a strong relationship between risk management and supply chain performance, therefore the study concluded that the presence of a risk management positively affects supply chain performance in organization.

It was further established that systems audit and supply chain performance were positively and significantly related ($\beta = 0.387, p=0.002$). The results are tandem with the research done by Schmalensee (2013) who found out that system audit increases the supply chain performance of the firms.

Monitoring and evaluation and supply chain performance were also positively and significantly related ($\beta = 0.332, p=0.006$). The results implied that a unit increase in monitoring and evaluation would result to an increase of 0.332 units in Supply chain performance of the firm. Tozay (2014) also emphasized that the extent monitoring and evaluation affects the performance of supply chain management in an organization.

### Table 8: Regression Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>0.156</td>
<td>0.585</td>
<td>0.267</td>
<td>0.79</td>
</tr>
<tr>
<td>Compliance audit</td>
<td>0.345</td>
<td>0.127</td>
<td>2.711</td>
<td>0.003</td>
</tr>
<tr>
<td>Risk management</td>
<td>0.294</td>
<td>0.096</td>
<td>3.08</td>
<td>0.008</td>
</tr>
<tr>
<td>System audit</td>
<td>0.387</td>
<td>0.118</td>
<td>3.269</td>
<td>0.002</td>
</tr>
<tr>
<td>Monitoring and Evaluation</td>
<td>0.332</td>
<td>0.129</td>
<td>2.573</td>
<td>0.006</td>
</tr>
</tbody>
</table>

Thus, the optimal model for the study was;

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon \]

\[ Y = 0.156 + 0.345X_1 + 0.294X_2 + 0.387X_3 + 0.332 X_4 + \epsilon \]

\( Y \) = Supply chain performance of Kenya Railways Corporation

\( X_1 \) = Compliance audit

\( X_2 \) = Risk Management

\( X_3 \) = System Audit

\( X_4 \) = Monitoring and Evaluation

\( \epsilon \) = Error term of the model.

From the regression model obtained from table 8, holding all the other factors constant, supply chain performance of Kenya Railways Corporation would be 0.156. A unit change in compliance audit would cause supply chain performance to increase by 0.345, a unit change in risk management will cause the supply chain performance to increase by 0.294, a unit change in systems audit will make the supply chain performance to increase by 0.387 and a unit change in monitoring and evaluation will make the supply chain performance to increase by 0.332. There exists positive relationship between compliance audit ($\beta = 0.345, p= 0.003$), risk management ($\beta =0.294, p= 0.008$) and the supply chain performance of Kenya Railways corporation also there exist positive relationship between systems audit ($\beta = 0.387, p=0.002$), monitoring and evaluation ($\beta = 0.332, p=0.006$) and the supply chain performance of Kenya railways corporation. In conclusion, the regression findings found that system audit had the highest significance to the supply chain performance of the Kenya Railways Corporation, followed by risk management,
compliance audit and last was monitoring and evaluation. These findings agree with that of Nwokah, Ugoji, and Ofoegbu (2015) in their study conducted to find out the effect of audits through innovations and organizational performance in the Nigerian brewing industry. They found that audits enhance product quality and product lines/product mix were positively and significantly correlated with the performance facets of profitability, sales volume and customer loyalty.

CONCLUSION
From the findings, the study found that Supply chain team adhere to the required policies and procedures thus improve supply chain management performance, Supply chain team safeguards and uphold the audit record for continuers improvement of supply chain management performance. A typical compliance review may usually include, but is not limited, to the following: examination of your procurement policies and procedures, review of previous audit records, observation of internal systems and controls, review of procurement human resource capacity, review of annual and quarterly procurement reports, examination of solicitations and contracts, examination of purchase orders and procurement practices The control mechanisms are effective to safeguard all (SCM) performances.

The study concluded that KRC ensures that the ineffective oversights are screened and detected as soon as they occur to enhance (SCM) performance. The organisation budgets and allocates enough resources for Procurement audit hence therefore elevating the performance of (SCM), The procurement process and system transparency is equitable to all the public and the organisation (internal and external) to enhance supply chain performance, The decision-making organ is readily available and performs on time to avert problem from occurrence that may hinder an uplift of supply chain performance.

The study concluded that the internal security system is up to task and flexible enough to safeguard all transactions of SCM hence enhancing performance. The Internal system enhances business continuity competitively and supply chain performance, the system is highly maintained and the loop holes and bottlenecks are dealt with in time hence maintaining a dependable to actualise supply chain performance, Individual with access controls are of high integrity to safeguard all transactions of the organisation from corruption to encourage public image of the procurement performance.

The investigation came to a conclusion that the major and minor adjustments to procurement are relevant to audits performed previously to encourage performance change in supply chain. There is a realisation of an upward shift in performance of SCM after audits more especially financial Audit, The post audit meetings held quarterly are able to track efficient on the submissions brought forward from past meetings to guarantee continuers supply chain performance.

RECOMMENDATIONS
Compliance audit conclusively affects supply chain performance, therefore the study recommended that Supply chain team must adheres to the internal systems in the organisation to boost supply chain management performance. Control mechanisms must be effective to safeguard all (SCM) performances.

The investigation on risk management had a positive and significant connection with the supply chain performance; thereby, the findings recommend that SCM team must follow the guidance and recommendations of past audits to forecast future performance results organisation should ensure continuers skill and educational seminars regularly to keep tabs of the ever upcoming global market which is a great step in enhancing supply chain performance.

It was highly recommended for Kenya railways cooperation to engage system audit in the organization. This aspect will ensure the system in place advocates for less paper work and maintains details reports of all transactions (green
procurement) as a focal point to supply chain performance.

The investigation came to a conclusion that there is a noteworthy and significant relationship between monitoring and evaluation and supply chain performance. The investigation advocates that major and minor adjustments should be made to procurement are relevant to audits performed previously to encourage performance change in supply chain. Procurement audits being reflected directly to procurement performance system is sustainable for proper decision making.

Area of Further Study
The investigation was restricted to Kenya Railways Corporation in Nairobi County only. Researches need to be carried out in other counties in Kenya. The investigation also focused on only four procurement audit practices whereas we have many others that all influence supply chain performance. Similar investigations can be carried out on other procurement audit practices that can influence the supply chain performance of the Kenya railways cooperation.

REFERENCES


