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CONTEMPORARY PROCUREMENT PRACTICES AND PERFORMANCE OF PUBLIC TEA FACTORIES IN KENYA

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ABSTRACT

The general objective of this study was to examine the influence of contemporary procurement practices on organizational performance in public tea factories in Kenya. The study adopted a descriptive research design to determine the influence of contemporary procurement practices on organizational performance in public tea factories in Kenya. The researcher targeted procurement managers only from Kenya Tea Development Agency and Nyayo Tea Zones Development Corporation. Stratified random sampling method was applied to come up with the sample size, since the population considered heterogeneous. The questionnaires were used since they were effective data collection instruments that allowed respondents to give much of their opinions in regard to the research problem. The questionnaires consisted of both closed and open ended questions for ease of collecting quantitative and qualitative data. Descriptive and analytical analysis techniques were appropriate for both qualitative and quantitative data. Qualitative data was grouped and coded to enable processing and tabulation. SPSS software version 24.0 was used to produce frequencies, descriptive and inferential statistics which was used to derive conclusions and generalizations regarding the population. The concepts of lean supply in public tea factories were derived from those of lean generation, with the main focus being on the buyer as well as the effectiveness of the operation. The lean element in public tea factories involved constant improvement and additionally strives to streamline operations inside the supply chain to eliminate waste and also non-value-added pursuits. The study concluded that designing as well as applying a Lean procurement management procedure drastically alters how the tea factory does business. The study recommended that E-Procurement should support the selection phase and also act like a correspondence platform between the tea factories as well as suppliers. It should address the entire tendering procedure from tender development to contracting, typically including support for the evaluation as well as evaluation activities. It should consist of closing the contract with a provider but facilitate a big part of the tactical procurement procedure.

Key Words: Green Procurement, Lean Procurement, E-Procurement, Agile Procurement

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INTRODUCTION

Carter and Narasimhan (2016) propose that the supply chain management (SCM) and purchasing methods are actually connected with rivalry competences of the firm which might partake crucial consequences on firm recital. Ooi and Chong, (2015) detect that a modest structured and also done procurement process will make it easy for corporations to reduce the accounts of theirs, have better customer support, average costs in addition to aid quick inventory turns. Out of the long-term viewpoint, a procurement process has been discovered to considerably increase a corporation's market share (Li, 2016).

Sonja and Amrik (2014) define procurement methods as those pursuits which are done by a company with the goal of ensuring there's effectiveness and efficiency for the management of procurement pursuits. Procurement is the overarching feature which identifies the activities as well as procedures to develop services and goods and it calls for the pursuits which are interested in establishing basic prerequisites, sourcing tasks including market analysis, vendor evaluation in addition to negotiation of contracts as well as which includes buying pursuits needed to order and receive items. Procurement involves sharing of info with the procurement members and so as to figure out the desire as well as urgency of procuring a specific really good or maybe service which is necessary at the business. These contemporary procurement practices include; eco-friendly procurement "going eco-friendly initiative", lean procurement, Agile procurement as well as dealer connection.

Tea production in Kenya is divided into two supply subsets; that produced by larger estates and produced by smallholdings (Gesimba & Kamau, 2005). The tea industry plays an important role in the Kenyan economy where it provides about 15% of the direct employment (Leijnse, 2011). Currently Kenya is ranked third behind China and India in tea production where Kenyan tea is also one of the top

foreign exchange earners, alongside tourism, horticulture and coffee (Uniliver, 2014). In the year 2010, the country produced 399 metric tons of made tea, earning Kshs 97 billion in foreign exchange (Uniliver, 2013). This represents about 26% of the total export earnings, and about 4% of the Gross Domestic Product (Tea Research Foundation of Kenya, 2014).

However, the future of this much-loved beverage is uncertain. The tea industry faces unprecedented challenges; a shift in consumer demand and habit, a changing climate, resource constraints and mechanisation of farming are converging to put pressure on an industry which recognises it needs to act if it is to create a sustainable future (Uniliver, 2014). Tea production in Kenya is divided into two supply subsets; that produced by larger estates and produced by smallholdings (Gesimba & Kamau, 2005). The small-scale sector, with more than 260,000 farmers, is controlled by the Kenya Tea Development Agency (KTDA) (TRFK, 2016). The estates, consisting of 60-75 private companies, operate their own factories (Republic of Kenya, 2015).

Statement of the Problem

Tea factories experience high operating cost occasioned by wastage, poor manufacturing source of energy, high labour costs, where 68 percent of the production cost is attributed to plucking of tea and poor energy source by the factories for manufacturing tea. This tied with low labour productivity affecting the return to farmers and therefore calls for adoption of automated processing in procurement to curb the overall production costs (F.A.O, 2016).

The good performance is however marred by allegations of irregular procurement at the company, including non-adherence to environmental issues, lack of automating procurement systems such as e-procurement .this has resulted to Kenya tea manufacturers receives low earnings from tea despite high export volumes compared to other For instance, in 2013, Kenya exported 131 metric tonnes more than Sri Lanka

but it earned USD 0.3 billion less due to poor lean strategies on cost reduction. Similarly, factories incur high energy cost with some relying heavily on wood fuel, which is environmental, hazardous. Most factories purchase wood from local suppliers or grow their own tree plantations contributing to significant deforestation. Energy costs are particularly high in the KTDA factories with their energy cost being at 50% - 60 % while the estates have the same cost at 30%. Due to the high electricity costs in the country and the high energy requirements in tea processing, sourcing power through the national grid has proven expensive. As such, to reduce the high-energy costs

According to Njogu & Wachira (2015) the study identified a number of issues constraining growth along the value chain. The key issues identified at the production level, include: high labour cost, which account for to reduce the high cost at the production level and enhance productivity, there is need to promote mechanization and automating supply chain. There is need to support small scale farmers to replace non value adding tea handling process as well. The factories managed by KTDA need to expand their capacity to enable production of other teas other than black CTC and extracts. To increase product diversity to speciality teas, there is need to develop the necessary human skills and introduce production lines for the speciality teas. In addition, factories should adopt innovations for reduction of energy cost by shifting to energy efficient technologies. This led to the research question of what is the impact of procurement practices in the performance of tea factories in Kenya.

Objectives of the Study

The general objective of this study was to examine the influence of contemporary procurement practices on organizational performance in public tea factories in Kenya. The specific objective of the study included;

- To examine the influence of green procurement practice on the organization performance in public tea factories in Kenya.

- To determine the influence of lean procurement practices to the organization performance in public tea factories in Kenya.
- To establish how e-procurement have positive effects on procurement practices and performance of public tea factories in Kenya.
- To establish the influence of Agile procurement practices on the organizational performance in public tea factories in Kenya.

LITERATURE REVIEW

Natural Resource-based View Theory

The Natural Resource-based View Theory assisted the study to find out the influence of green procurement practice on organizational performance in public tea factories in Kenya. Scientists in the field of administration have long comprehended that upper hand relies upon the match between particular inside (hierarchical) capacities and evolving outside (natural) conditions (Andrews, 2011; Chandler, 2012; Wang & Li, 2008; Penrose, 2009). According to Hart (2015) it was only in the 1950s that a bonafide theory, known as the resource-based view of the firm, emerged, articulating the relationships among firm resources, capabilities, and competitive advantage. The match between internal and external environments according to Porters (2015) leads to competitive advantage due to cost leadership and quality differentiation .Afterwards, it was noted that “competing for the future” is an important measure of competitive advantage.

Theory of Technology Acceptance Model (TAM)

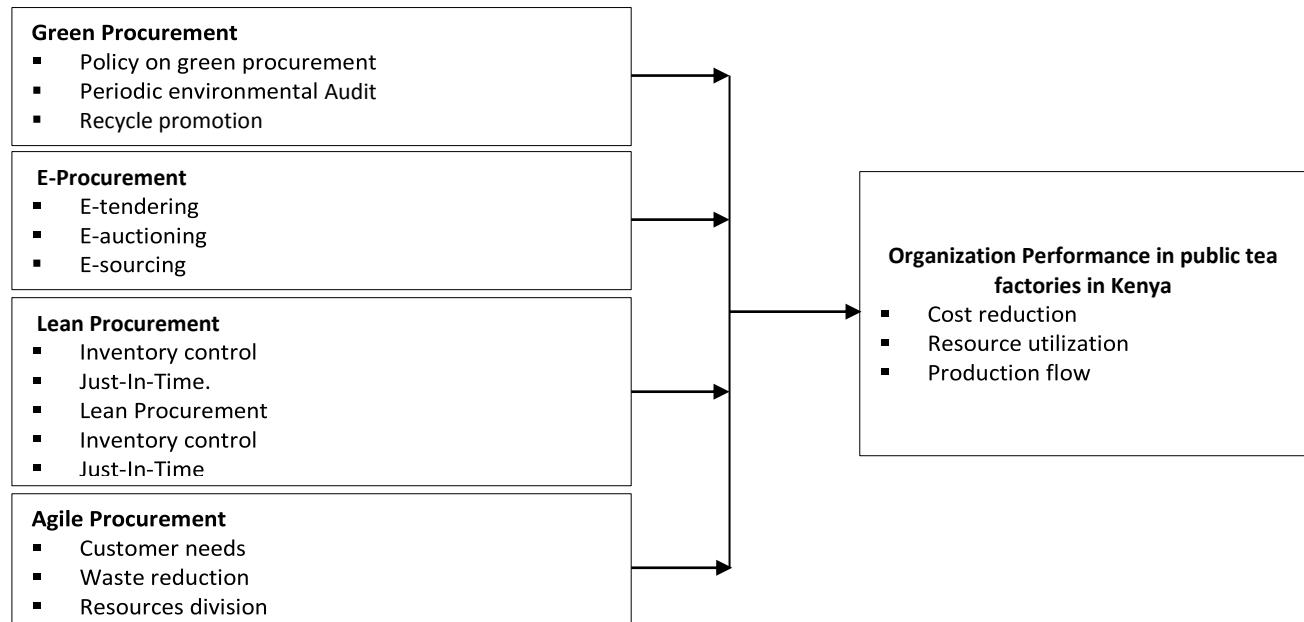
The study was based on the theory of technology acceptance model (TAM) and influence of e-procurement on performance in public tea factories in Kenya. The e-procurement lack an overarching definition and encompass a wide range of business activities. According to Stefano (2010) e-procurement remains a first generation concept aimed at buyers who should progress into e-sourcing and ultimately into e-contract. The theory of acceptance model (TAM), firstly proposed by Davies, (1986) explain on individual information

technology (IT) acceptance (Hu, 2008). Theory of reasoned action (TRA) originally proposed by Fishbein and Ajzen in (1975) in an attempt to understand behavior and predict outcomes. The theory of reasoned action (TRA) assumes that a person takes into account the implications of the action before deciding whether to engage in certain behaviour.

Lean Theory

Competitiveness in dynamic developing market conditions can be ensured through the implementation of lean manufacturing for organizations B. P. Tomar and A. N. Tiwari (2016). The theory consists of three main concepts: The first is value-added and non-value-added work which, as we know, is central to Lean Thinking (Womack and Jones, 1996, Lean Thinking, Simon and Schuster, NY). The second is that materials can move swiftly only if there are no bottlenecks which, as we know, are central to Goldratt's Theory of Constraints (ToC). The third is that for materials to flow more evenly, it is necessary to narrow the variability associated with either the demand on the process.

Variability in demand is central to John Seddon's Systems Thinking while variability in process steps is



Independent Variables

Figure 1: Conceptual Framework

central to Six Sigma It is recognized as an extensive set of much effective techniques for waste identification and its elimination from processes in order to enhance system and reduce on the whole production costs organizations Tomar and Tiwari (2016).

The Agile Supply Chain Theory

The Agile Supply Chain Theory assisted the study to find out the influence of agile procurement practice on organizational performance in public tea factories in Kenya. The market environment has become more dynamic and turbulent; companies need to adopt new supply chain strategy for them to remain competitive. Supply chain management is currently moving away from standard tasks to Agile ability of cut-throat bases of profitability, quality, innovation, flexibility, and speed with the integration of reconfigurable energy in addition to best practices in a knowledge rich setting to offer customer driven services and products in a quickly changing market atmosphere (Yusuf,2014) As a result of these uncertainties, organizations today are faced with a number of challenges in the supply chain which include among others the ability to meet up with changes in demand variability, service improvements, lowering inbound costs, improving on-time delivery and shorter customer lead times.

Empirical Review

Lots of studies have been performed on contemporary procurement practices. Larson (2014) carried out a study on the best procurement methods on lean procurement tasks in United States of America: Daud also as Zailani (2011) did a research on lean procurement in addition to cost effectiveness in Malaysia and found out that Lean Procurement practices are immediately connected to the performance of processing factories in Malaysia. Bergmiller and McKnight (2009) are actually a great deal more exact in the conclusions of theirs.

The empirical results of the study recommended that GP is actually impacted by the drivers namely RG, EBB, CP, and firm ownership. The benefits also recommended that, though Malaysian firms showed a higher amount of SR. it didn't constitute a real driver for these companies to adopt GP. The outcomes of the paper offer insights into the reason Malaysian firms adopt GP activities. Additionally, it offers policy makers and supervisors with a summary of drivers which may be utilized as directions for creating right policies which encourage firms to adopt GP initiatives.

Holt and Rao (2005) observed that green methods are able to make it possible to boost environmental performance. Rao (2002) argued that a lot of big Taiwanese companies had adopted green procurement methods to improve environmental performance and then bring down production costs. Rha (2010) studied the effect of environmentally friendly supply chain methods on supply chain performance and then revealed a major beneficial relationship between GSCM practices and 3 supply chain performance parameters namely resource, output, and flexibility. These reports throughout the point to the point that environmentally friendly procurement, the same as some other socially responsible methods, have an effect on performance and that green organizational performance in public tea factories in Kenya can be assessed.

E-procurement has been termed as the kid of the internet age (Ageshin, 2011). The emergency of online has had a major effect on the company purchasing practices. Following the emergency of web, innovations resulting in what've come to be recognized as Business to Business (B2B) marketplaces, electronic supply chains, trading hubs or maybe trading communities situated as web-based procurement networks have been overwhelming.

Based on Panneerselvam (2005) lean procurement precisely specifies value by certain product in conditions of the certain cost as well as the particular time it's needed. The value stream for each item which is actually all of the steps and procedures necessary to deliver certain merchandise from the raw materials to completed product, in the hands of the clients is actually identified. Next, the importance flow that is a flow of raw materials through a committed arrangement of facilities with unique value addition at each phase of the importance stream, to create items continuously, which might end up in less price, decreased other advantages and delivery time of lean system though other production types are actually probably is actually made.

This guarantees that the importance flow with no interceptions. The consumer will then pull the value from the item, which is actually getting the item from the producer and when they require the service. Finally, there's pursuing of perfection, which is actually achieving all of the essential program performance measures at probably the highest amounts. Their findings refer the benefits that supervisors might have when implementing lean and agile methods as a hybrid model. Studying the shin go prize awards and also the finalists, these authors found out those synergistic lean and agile practices optimize the human energy applied to waste reduction. Furthermore, they state that lean activities work as a moderate to lean results, which point out the great possibility for integration Kabuga (2012) investigated on lean procurement styles used by large manufacturing organizations in

Nairobi. Results of the study showed that just in management and time of demand have been taking Agile and lean control plans in spite of troubles emanating from the outer and inner surroundings. Eyraud (2011) noted green procurement as necessary investment to allow reduce greenhouse gas and air pollutant emissions, without drastically cutting back on the generation and consumption of non-energy goods.

Group to endure this tournament there's need to properly link various operations with the vendors for probably the most crucial feature of procurement methods is actually enhancing performance of the whole procurement process as well as the organizational means of operating its activities. Agile procurement can be coupled with successfully created and operated supply chains (Mason Jones 2012), supplier connection as these businesses seek to increase on their organizational performance.

Agile is actually required in less predictable environments when volume is actually very low and variability is actually high (Lim 2014). Agile techniques focuses on the division and waste reduction of assets to adapt to continuous changes in an unforeseen environment (Dove 2016). The public sector procurement mainly comprises procurements by government or maybe state owned or maybe controlled institutions and corporations. Public procurement consists of public sector supply chains and multi-level network which may be evaluated at the main, province, local authority and district. The distinction between these amounts of procurement usually depended on volume and value and annual goods and services procured (Ellinger, 2016).

Organizational performance is the capability of a company to satisfy the mission of its through good management, good governance and a continual rededication to achieving its benefits and vision. Kirkendall (2010) suggests that a well-defined method of organizational performance measures could be a strong means for prioritizing organizational goals and attaining them.

Businesses which puts into practice these contemporary procurement practices into use they're in a position to create quality goods as well as services as well as makes it possible for the group to send their things and services on time. Polster (2013) indicates which performance measurement is meant to generate unbiased, relevant information on business method of carrying out the actions of its which may be utilized to improve management and inform decision making.

Turner, (2011) further states that performance may be calculated using profitability actions like ROE and ROA places for improvement in the company consist of decreasing wastage that's after processing the tea, reduction of the lead time utilized to provide the items to the customers as well as customers, to enhance quality of the last goods as well as services being provided.

METHODOLOGY

This study adopted a descriptive research design to determine the influence of contemporary procurement practices on organizational performance in public tea factories in Kenya. The population of interest in this study was the public tea factories in Kenya. The researcher targeted procurement managers in Factories from Kenya Tea Development Agency and Nyayo Tea Zones Development Corporation, in different regions who were 60 for each factory was represented by one respondent. The research used both primary and secondary data. The data was collected by use of semi-structured questionnaire. The questionnaires consisted of both closed and open ended questions for ease of collecting quantitative and qualitative data.

To ensure that the questionnaires were valid and reliable the study formulated the questions related to each stated objective. SPSS software version 24.0 was used to produce frequencies, descriptive and inferential statistics which was used to derive conclusions and generalizations regarding the population. Multiple regression models were used to show the relationship between the independent variables to the dependent variable as follows;

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + e$$

Where

Y = Organizational Performance in Public Tea Factories in Kenya, X_1 =Green procurement, X_2 =E-procurement, X_3 =Lean procurement, X_4 =Agile procurement and e = Error term

In the model, β_0 =the constant term while the coefficient $\beta_{ii-1.....4}$ was used to measure the sensitivity of the dependent variable(Y) to unit change in the predictor variables x_1, x_2, x_3 and x_4 . The error (e) term captured the unexpected variation in the model.

RESULTS

Green Procurement

The study sought the respondent's level of agreement with the following statements that relate to the Influence of Green Procurement on organizational performance in public tea factories in Kenya and results presented on Table 1. From the findings, majority of the respondents strongly stated green procurement should be enhanced through providing design specification to suppliers that include environmental requirements for purchased items which was supported by a mean of 4.09 and standard deviation of 0.93. The study revealed that public tea factories employees always used green procurement policies on the tasks done

during acquiring of goods and services for the organisation which was supported by a mean 3.96 and standard deviation of 1.00.

The respondents indicated that Design of products for reuse, recycle, recovery of material, component parts were developed by the user department as specifications required which had a mean score of 3.84 and standard deviation of 1.00, from the finding it was observed that the organization does recycle promotion quarterly a year to save on cost and environment though was supported by mean score of 4.14 and standard deviation of 0.95. The respondents strongly agreed that the procurement department Procured products that were made using recycled materials to support the green procurement initiative which had a mean score of 3.63 and standard deviation of 0.96. From the finding this implied that public tea factories in Kenya that goes green in response to customer concerns enhances the levels of its of customer satisfaction, a vital point of customer retention. The finding of the study agreed with those of Armstrong (2012) that becoming environmentally friendly does not increase the prices. The majority of the time it saves money, particularly once the latest items use significantly less energy, generate a lesser amount of waste, and keep going longer.

Table 1: Green Procurement

Statement	Mean	Std
Providing design specification to suppliers that include environmental requirements for purchased items	4.09	0.93
The organization employees always use green procurement policies on the tasks done	3.96	1.00
Design of products for reuse, recycle, recovery of material, component parts	3.84	1.00
The organization does recycle promotion quarterly	4.14	0.95
Procure products that are made using recycled materials	3.63	0.96

E-Procurement

Respondents were requested to indicate their response on the level of agreement with the given statements concerning influence of E-Procurement on organizational performance in public tea factories in Kenya and results presented on Table 2. From the findings, majority of the respondents strongly agreed that the e-Procurement software

was used in most tasks done in procurement department to ensure that there was transparency which had a mean score of 3.95 and standard deviation of 1.08. The study revealed that majority of the in public tea factories used online tender platforms to do open tenders and evaluate bids and finally award the tenders to most competitive bidder online which a mean score of 3.86 and

standard deviation of 1.01. From the study it was observed that through use of the e-procurement platforms number of tender documents accepted were more than those rejected since all the process had to complete online before submitting of the final which was supported by a mean score of 3.88 and standard deviation of 0.85.

The respondents indicated that Number of sales done through E-auctioning was more than the normal sell hence indicating that online auctioning was friendlier to use. From the finding in this study

it implied that if tea factories factor in the decrease in paperwork, costs, and procurement errors, a switch to e procurement would reduce employees cost as well as the environment impact due to disposal of materials. The findings in this study were in line with those of Aketch (2013) that when you've different departments making procurement choices, there could be differences in what and the way they buy. Conducting purchasing electronically makes it much simpler for each division to conform to business procurement standards.

Table 2: E-Procurement

Statement	Mean	Std
The e-Procurement software is used in most tasks done in procurement department	3.95	1.08
The organization uses Online tender platforms to do open tenders	3.86	1.01
There is frequent number of Monitoring and auctioning done in a year	3.80	0.95
Number of tender documents accepted are more than those rejected	3.88	0.85
Number of sales done through E-auctioning are more than the normal sell	3.98	0.86

Lean Procurement

The respondents were asked to indicate the effects of Lean Procurement practices on performance of their organizations. It was found that Lean supply chain management practices had led to minimum cost and disruption in provision of products and services to customers since there was more waste reduction as a result of adoption of lean procurement at a mean of 4.07 and standard deviation of 0.92. Through the lean approach the organization received more orders which arrived in just-in-time to avoid handed cost on inventory storage cost, holding cost, inventory theft and pilferages which had mean score of 4.13 and standard deviation of 0.83. The respondents strongly indicated that more deliveries were made in time according to agreement between the buyer

and seller based on the signed lean contract between the buyer and seller through was supported by a mean of 3.86 and standard deviation of 1.06. The finding in this study indicated that Expertise in supplier selection in tea factories had a role in reduction of cost and waste. From the finding it implied that tea Companies that implement and have formal processes in place to develop suppliers typically receive the benefit of cost reduction on an on-going basis. The finding concurred with those of that Abdifatah, (2012) to control costs, there should be verifications against the approved budget to determine if funds had been allocated and if the purpose for acquiring an item is valid or justified based on organizational policies.

Table 3: Lean Procurement

Statement	Mean	Std
There is more waste deduction as a result of adoption of lean procurement.	4.07	0.92
The organization receive more orders which arrive in just- in- time	4.13	0.83
There is high fulfillment rates of customers' needs	3.91	0.99
More deliveries are made in time according to agreement between the buyer and seller.	3.86	1.06
Expertise in supplier selection has a role in reduction of cost and waste	4.14	0.83

Agile Procurement

The respondents had been requested to indicate the level of theirs of agreement with the specified Statements which connect to the influence of Agile Procurement on organizational performance in public tea factories in Kenya and results given on Table 4. A likert scale of 1- 5 was used where strongly agree=5, disagree=2, not sure=3, agree=4, and clearly disagree=1. From the findings, vast majority of the respondents clearly agreed that the company designs items to stay away from or even reduce use of hazardous of products and/or their manufacturing process were 60.71 % of the respondents agreed, 28.57 % of the respondents strongly agreed while only 1.79 % of the respondents disagreed with the statement. The analysis revealed that through the number of mistakes and returns in meeting consumer needs were actually low where 30.36 % of the respondents strongly agreed, 58.93 % of the respondents agreed and 5.36 % of the respondents were neutral while only 1.79 % of the respondents disagreed. Though nimble supply chain approach the company delivered working functions often, from a few weeks to a couple of months, with a

preference to the shorter timescale with 14.29 % of the respondents strongly agreeing and 62.50 % of the respondents agreeing while only 8.93 % of the respondents were neutral on the statement.

The respondents suggested that there was higher resource division with different departments in the group through the agile approach were 30.36 % of the respondents strongly agreed, 53.57 % of the respondents agreed while 1.79 % of the respondents disagreed with the statement. From the finding it implied that Agility in the supply chain was actually concentrating on staying away from potential shortages and eliminating excessively stocked inventory. Reacting faster compared to the competitors as new market opportunities emerge or maybe disruptions in the supply chain happen. Instead it's around more effective preparation as well as quicker execution. The finding concurred with those of Cachon &Fisher, (2010) that in today's globalized, free market atmosphere, the capability to satisfy consumer expectations is actually primary to profitability. In case you're not nimble, you cannot do it, because customer expectations are not fixed.

Table 4: Agile Procurement

Statement	1	2	3	4	5
The organization Designs products to avoid or reduce use of hazardous of products and/or their manufacturing process	1.79%	1.79%	7.14%	60.71%	28.57%
Number of returns and errors in meeting customer needs are low	3.57%	1.79%	5.36%	58.93%	30.36%
The organization Delivers working functions frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale	5.36%	8.93%	8.93%	62.50%	14.29%
There is high resource division with various departments in the organization.	1.79%	1.79%	12.50%	53.57%	30.36%

Organizational Performance in Public Tea Factories in Kenya

The study sought the extent to which indicators of level of performance experienced by public tea factories in Kenya in the last five years in terms of total cost of operations (Ksh), Resource utilization (Ksh), Cost Reduction (Ksh), Production Flow (Ksh) and Customer Service (%). By taking year 2014 as

the base year, on achievement of Cost Reduction (Ksh), a 5 – point likert scale was adopted. The level of Total operating costs ksh (M) in tea factories was at ksh. 500,000, in year 2014 it was ksh. 900,000, in the year 2015 it was ksh. 1.2 M, in year 2016 it was ksh. 1.5 M and ksh. 1.7 M in the respective years 2017 and 2018 this was an indication that the cost

was gradually reducing through the application of the agile strategies and lean practices.

With regards to the overall Resource utilization (Ksh) public tea factories in Kenya though implementing procurement strategies practices in the past three years, firms increased resource utilization between 12-15 % in the year 2014 , the tea factories utilized 20-30% in the year ,2015 and 35-45 %, 50-60 % and 65-80% in the year 2016, 2017 and 2018 respectively and indication that through the agile approach waste was been reduced and the procurement department ordered what was required just in time.

In the year 2016, the tea firms increased production that was influenced directly by the cost reduction

and resource utilization hence influencing the number of units produce per annum where in 2014 units produced were 100 units, in the year 2015 there were 500 units, in the year 2016 there were 1000 units and in the year 2017 and 2018 there were 2500 units and 4000 units which was a great increase in Production Flow(units). The findings were in line with those of Kazi, (2012) who held this efficiency, as well as effectiveness connected with procurement contemporary strategies methods, have crucial impacts on firms' strategic performance in phrases of client satisfaction, cost reduction, as well as enhanced profitability. Table 5 below presented the findings

Table 5: Organizational Performance in Public Tea Factories in Kenya

Organization Performance	2014	2015	2016	2017	2018
Cost Reduction (Ksh)	500,000ksh	900,00ksh	1.2 M	1.5 M	1.7 M
Resource utilization (Ksh)	12-15 %	20-30%	35-45 %	50-60 %	65-80%
Production Flow(units)	100units	500 units	1000 units	2500 units	4000 units

Inferential Findings

Correlation analysis

The analysis undertook correlation matrix analysis to look at the connection between contemporary procurement habits on organizational functionality in public tea factories in Kenya. Table 6 presented the correlation matrix evaluation. The correlation element ranged from $-1 \leq r \leq 1$. The acceptance confidence level was 95 % or perhaps a significant amount of 0.05. The study conducted a Pearson Moment Correlation analysis that was represented by r . For all of the analysis variables to set the association between Green procurement, E-procurement, Lean procurement, Agile procurement as well as Organizational effectiveness in public tea factories in Kenya.

There seemed to be a powerful positive correlation ($r=0.635$) between Organizational functionality as well as green procurement in public tea factories in Kenya. The correlation was statistically significant

$P=0.00 <0.05$ at 95 % confidence level. The study discovered that there existed a powerful correlation between organizational functionality along with E-procurement in public tea factories in Kenya companies ($r=591$), the correlation was statistically significant $P=0.00 <0.05$ at 95 % confidence level. The strength of the connection between Organizational functionality and lean procurement in public tea factories in Kenya was positive and strong ($r=.808$).

The correlation was statistically significant $P=0.00 <0.05$ at 95 % confidence level. The study discovered that there existed a powerful correlation between Organizational functionality as well as agile procurement in public tea factories in Kenya. ($r=628$), the correlation was statistically significant $P=0.00 <0.05$ at 95 % confidence level. This implied that there existed a good correlation between contemporary procurement habits on organizational functionality in public tea factories in Kenya.

Table 6: Correlations

		Performance in Public Tea Factories in Kenya	Green Procure ment	E- Procur ement	Lean Procur ement	Agile Procure ment
Performance in Public Tea Factories in Kenya	Pearson Correlation	1				
	Sig. (2-tailed)					
Green Procurement	N	56				
	Pearson Correlation	.635**				
	Sig. (2-tailed)	.000				
EProcurement	N	56	56			
	Pearson Correlation	.597**	.934**			
	Sig. (2-tailed)	.000	.000			
Lean Procurement	N	56	56	56		
	Pearson Correlation	.808**	.791**	.794**		
	Sig. (2-tailed)	.000	.000	.000		
Agile Procurement	N	56	56	56	56	
	Pearson Correlation	.628**	.933**	.945**	.880**	
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	56	56	56	56	56

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

Model Summary

From the findings, the correlation coefficient (R) was 0.742 which was positive, showed a strong relationship between contemporary procurement practices on organizational performance in public tea factories in Kenya. The R-Square value of 0.742 showed that contemporary procurement practices Accounts for 74.2% of the variation or change in the organizational performance in public tea factories in Kenya. This result supported the general view that contemporary procurement practices were not the only factors that explained performance of firms, that there was other factors that explained firms' performance in addition to contemporary procurement practices.

ANOVA^a

Results indicated that the Total variance 36.690 was the difference in the variance which can be explained by the independent variables (Model) and the variance which was not explained by the independent variables (Error). Based on the findings, the results indicated that the F Cal =36.690 at confidence level 95 % and were 0.000<0.05. F Cri = 1.9365. The calculated value was greater than the

critical value (36.690>1.9365) this implied that there was a goodness of fit of the model fitted for this study:

Regression Coefficients

Results presented regression coefficients of the effect of contemporary procurement practices (Green procurement, E-procurement, Lean procurement and Agile procurement) on organizational performance in public tea factories in Kenya.

The optimal model was

$$Y= 1.783 + 0.864X_1 + 0.687X_2 + 0.384X_3 + 0.103X_4$$

Where:

The regression equation established that using (Green procurement, E procurement, Lean procurement and Agile procurement), organizational performance in public tea factories will be 1.783. The results indicated that, holding other variables constant, a device rise in the adoption of Lean Procurement would lead to 0.864 increases in organizational performance in public tea factories. This variable was considerable since calculated p value (0.000) is actually under 0.05 at

five % level of significance. The results even more show that holding various other variables constant, a device rise in the adoption of Agile Procurement will lead to 0.687 increases in organizational performance in public tea factories. This variable was considerable since calculated p value (0.000) was lower than 0.05 at five % level of significance implying that incorporating agility at the start of the look of the supply chain was actually an essential component of a company's supply chain strategy. Green Procurement methods as the results suggested and when other variables are actually

kept constant, leads to 0.384 changes in organizational performance in public tea factories. This meant that a device rise in the adoption of green Procurement methods will result in an increase in firm performance by 0.384. This variable was considerable since p value (0.003) was a bit less than 0.05 at five % level of significance. The beta coefficient of 0.103 implied that, a device change in using of E Procurement led to a 0.103 increase in firm performance. The impact was considerable since the p value of 0.002 was a bit less than 0.05 at five % significance level.

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.861 ^a	.742	.722	.481		
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.018	4	8.504	36.690	.000 ^b
	Residual	11.822	51	.232		
	Total	45.839	55			
Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	1.783	.251			7.109	.000
Lean Procurement	.864	.107	1.244		8.038	.000
Agile Procurement	.687	.179	1.196		3.844	.001
Green Procurement	.384	.143	.595		2.689	.003
E-Procurement	.103	.138	.184		.747	.002

CONCLUSION

The study concluded that not merely is some business which doesn't turn to Green Procurement risking a run-in with the law by failing to comply with eco-friendly laws that are in violation of the environment through Green Procurement. Tea factories are able to offset environmental and financial threat, instead of merely inheriting it from the suppliers. Since Living green does not increase price of acquiring material; the majority of the time it saves money, particularly once the latest items use significantly less energy, generate a lesser amount of waste, and keep going longer. Occasionally eco-friendly products work better than

the toxic counterparts. Green Procurement for Tea factories decreases the expenses, among others: risky material management costs as well as functional costs. E-procurement helps Tea factories save cash by preventing identical spending, using volume buying, and also helping Tea factories save costs related to paper-based methods (for instance, the price of stamps to mail the paperwork) of. E-procurement is both efficient and time-saving. As the electric handling of jobs supports and also simplifies the purchasing process, transaction velocity is improved. Additionally, due to enabled associations with vendors, procurement cycle times speed up. The e-procurement procedure eliminates

unnecessary activities, enabling Tea factories to concentrate on much more beneficial activities. Electric documents are streamlined and therefore easier to check out for mistakes - there is no messy printing. In addition to this, previous orders are more quickly referenced, meaning there is a much better likelihood that the Tea factories are able to compare orders to confirm new ones are right. The study concluded that designing as well as applying a Lean procurement management procedure drastically alters how the Tea factory does business. A standardized and clear procedure to supply materials or maybe just-in-time inventory policies and parts cut down on the concern on the balance sheet along with stabilizes the whole value chain. Suppliers selected as well as assessed the exact same way are going to have the exact same purchasing structure and can easily be more quickly incorporated into adaptable manufacturing tasks. Being flexible and reliable implies a naturally competitive edge. The study concluded that agility enables tea factories to lower expenses and also rationalize inventory by anticipating need as efficiently as procurement department can. Building a resilient and agile supply chain might not be the lowest cost choice for a tea factory. Nevertheless, it provides a predictable supply chain with the maximum harmony between speeds, quality as well as value Agile procurement caters to real picture. A tea factory needs, causing the selection as well as the implementation of a fix completely different from the camera used in previous times, but fulfilling exactly the same goals. It will take into account the expense pressures as well as opportunities of the supplier sector prior to collaborating with vendors. This process of procurement tries to arrange the interests of the group with those of the vendors and appreciates the benefits of speed along with savings. Agile responds to modifications positively and offer improved exposure of a project's improvement.

RECOMMENDATIONS

The study recommended that Green procurement provide cost savings. Buying' green' often involves

items which are readily recycled, be more durable or even generate much less waste. Cash is thus saving from waste disposal. Additionally, eco-friendly items typically require fewer inventories to manufacture as well as operate; therefore savings could be made on power, water, gas, and various other natural resources. The tender assessment panel must assess tender offers which could meet the necessary needs and also suggest either probably the lowest conforming provide or even the top-scoring conforming proposal for validation.

The study recommended that E-Procurement should support the selection phase and also act like a correspondence platform between the tea factories as well as suppliers. It should address the entire tendering procedure from tender development to contracting, typically including support for the evaluation as well as evaluation activities. It should consist of closing the contract with a provider but facilitate a big part of the tactical procurement procedure. It should lead to equal treatment of suppliers; transparent selection process; decrease in (legal) errors; distinct audit trail; much more effectiveness in the tactical procurement progression plus enhanced time management of tendering methods. E-sourcing supports the specification stage; it may be utilized to pre-qualify suppliers as well as identifies suppliers which may be utilized in the selection stage.

The study concluded that Lean Procurement approach should enable tea factories utilize suppliers as frequently as possibly without spending much more of a premium time, asset and money to be able to regain inner assets to perform in core parts of the company. Striking the best harmony between the cost and value-added services of services and goods are able to generate savings that are huge, in the Along with utilizing suppliers for non-core company functions, think about including and Maintaining the inventories in an enhanced level to guarantee that everyone material or stocks saved or even kept on hand are the ones that see the immediate requirements of the business. The

way, all purchases are changed into done items or goods which are prepared for distribution to clients in a moment's notice.

The study concluded that agile procurement is placed to become the driver of the adaptability, comprising a group that's action-oriented, data-driven, collaborative, and forward-thinking. It describes the technique of buying outcome-based remedies from possible providers instead of interested in just one answer, that results to cost savings for organizations. An Agile approach offers specific solutions targeted at solving intended problems and helps tea factories keep a cordial vendor-client relationship. Factories that effectively scale up Agile see big changes in the businesses as they're better capable to comprehend conditions that are changing & priorities, develop adaptive fixes and stay away from crises which often hit the standard organizational hierarchy. Adoption of Agile is a step-by-step and ambitious procedure. It

provides a path of improvement even once the future is unsure.

Areas of Further Study

This study was carried in public tea factories in Kenya. Further research can be undertaken in other private tea factories in Kenya. To establish the influence of contemporary procurement practices findings of this study were same in other tea factories. The current study further relied on primary data and therefore future similar studies should be developed using secondary or empirical data. Regression analysis indicated an R squared of 74.2% an indication that other factors exit not covered by the current study that significantly affect contemporary procurement practices on organizational performance in public tea factories in Kenya and therefore future studies should endeavor to uncover other contemporary procurement practices affecting performance in tea factories.

REFERENCES

- Armstrong M, Baron(2012). Job Evaluation Handbook. London. Institute of Personnel Development.
- Aketch J, Karanja P.(2013)1(2)41 Factors Influencing Procurement Performance in Constituency Development Fund (CDF): Case of CDF Use in Makadara Constituency. *International Journal of Social Science & Entrepreneurship*;
- BashekaB(2008). Procurement Planning and Local Governance in Uganda: A Factor Analysis Approach. Uganda Management Institute.
- Abdifatah, H. M. (2012) Supply chain management practices and their impact on performance among humanitarian organizations in Kenya. An MBA *Research Project Submitted to the University of Nairobi*.
- Alvarado, U. Y., & Kotzab, H. (2001). Supply Chain management: the integration of logistics in promotion. Manufacturing Marketing Management, thirty two (two), 183 198.
- Balsmeier PW, Voisi). Supply chain nW(2013 management: a period based strategy. IndustrialManagement.
- Barney, J. B. (2002) Sustaining & gaining competitive advantage (2nd ed.). Upper Saddle River, NJ: Pearson Education, Inc
- Greatest Practices Benchmarking (2010) Supply Chain Management Best Practices. Reportby Best PracticessLLc. 919.

Chen IJ, PaulrajA (2014). Towards a principle of supply chain management: the constructs and measurements. Log of Operations Management;22 (2):119 50.

Childhouse, P., &Towill, D. R. (2003). Simplified material flow holds the answer to supply chain integration. Omega, thirty one (one), 17-27.

Cooper, D. & Schindler.P.(2003).Business Research methods. (8th ed.), New Delhi: Tata McGraw Hill

Flynn, B., Huo, Xhao and B., X. (2010) The Impact of Supply Chain Integration on Performance: A Contingency as well as Configuration Approach. Log of Operations Management twenty eight (one) pp 58 71.

Handfield, Nichols and B., L. (1999) Introduction to Supply Chain Management. Prentice Hall, Inc., Upper Saddle River, New Jersey.

Kaplan, R.S. & Norton, D.P. (2001). The Balanced Scorecard: Translating technique into Action, Harvard Business School Press, Boston, MA.

Kazi, S. (2012) Supply chain management methods as well as performance at Kenya. An MBA task submitted to the Faculty of Nairobi.

Kirkendall, N. (2010) Organizational Performance Measurement In The Energy Information Administration.Energy Administration Department.

Kopczak, L. R., and Johnson, M. E. (2003). Supply Chain Management Effect. MIT Sloan Management Review, 44(3), 27 34.

Koufteros XA, Vonderembse MA, Doll WJ. Competitive capabilities: relationships as well as measurement. Proceedings Decision Science Institute 1997;1067 68.

KTDA (2013) Kenya Tea Development Agency Background. Offered at: <http://www.ktdateas.com> accessed on 16/07/2012

Lee, H. L., as well as Whang, S. (2000). Information sharing in a Supply Chain. International Journal of Technology Management, twenty (3/4), 373-387

Lin F, Huang S, Lin S. Negative effects of info sharing on supply chain efficiency in electronic commerce. IEEE Transactions on Engineering Management 2002; 49 (3): 258 68.

Mcadam, R. &McCormack, D (2003) B2B collaboration: what's it? Supply Chain Practice, five, 18 28.

Mentzer et al, (2001) Defining Supply Chain Management. Journal of Business Management, Vol twenty two, No. 240

Mentzer JT, Min S, Zacharia ZG. The dynamics of inter firm partnering of supply chain management. Log of Retailing 2000;76(4):549 68.

Min S, Mentzer JT. Measuring as well as developing supply chain principles. Journal of Business Logistics 2004;25(1):63 99.

- Narasimhan et al. (2006) Disentangling leanness as well as agility: an empirical investigation.
- Kothari C. R. (2011) Research Design and Methodology (published by New Age International (P) Limited).
- Creswell J. W. (2013), "Review of the Literature". Research Design Qualitative, Quantitative, and Mixed Method Approaches (4th ed.). Thousand Oaks, California: SAGE Publications. ISBN 9781452226101.
- Cooper, D. R., & Schindler, P. S. (2014). Company Research Methods (12th Edition). New York: McGraw-Hill/Irwin
- Saunders, & Thornhill, P., Lewis, M., A.(2014). Investigate Methods for Business Pupils (7th Edition). Pitman Publishing
- FAOSTAT. (2017). "Statistical databases." Food and Agriculture Organization of the United Nations, Rome (2017).
- Njogu, R. N. E., Kariuki, D. K., Kamau, D. M., & Wachira, F. N. (2015). Economic Evaluation of Foliar NPK Fertilizer on Tea Yields in Kenya. Log of Plant Studies, 4(1), thirty five.
- World Bank. (2017). To do Business 2017: Equal opportunity for all. A world bank team flagship article. New York, The World Bank Publ.
- Republic of Kenya. (2015). Kenya's Industrial Transformation Programme. Ministry of Industrialization and Enterprise Development.
- Export Development Board (EDB). (2014). Fiscal Incentives Available for Sri Lankan Exporters [NON-BOI]. Sri Lanka.
- FAO (2014). Impact of macroeconomic factors on the global tea economy. Committee on commodity problems, Intergovernmental group on tea, Twenty-first session. Bandung, Indonesia, 5-7 November 2014
- Belvedere, V., Grando, A., & John Wiley & Sons. (2017). *Sustainable operations and supply chain management*. Hoboken: Wiley.
- In Dubey, R., & In Gunasekaran, A. (2016). *Strategic management of sustainable manufacturing operations*.
- Lainez-Aguirre, J. M. (2015). *Advances in integrated and sustainable supply chain planning: Concepts, methods, tools and solution approaches toward a platform for industrial practice*. Cham: Springer.
- Leavy, P. (2017). *Research design: Quantitative, qualitative, mixed methods, arts-based, and community-based participatory research approaches*. New York: Guilford Press.
- Nasiche, F., & Ngugi, G. K. (2014). Determinants of Adoption of Green Procurement in the Public Sector: A Case Study of Kenya Pipeline Company. *International Journal of Social Sciences and Entrepreneurship*, 1(11), 351-372
- Parmenter, D. (2015). *Key performance indicators: developing, implementing, and using winning KPIs*. John Wiley & Sons.