

## FACTORS INFLUENCING EFFICIENT PUBLIC PROCUREMENT IN THE FREE PRIMARY EDUCATION PROGRAMME IN KENYA: A CASE STUDY OF MACHAKOS COUNTY

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### ABSTRACT

According to Ministry of Education statistics, Machakos County's education expenditure as a percentage of GDP remained fairly constant, ranging from 6.1% in 2005/6 to 6.4 % in 2009/10. Recurrent spending of predominantly administration and teachers 'salaries, accounted for 91% of education sector public spending in 2009/10. The gains for poorest quintile at primary level are estimated at 24.7 percent; 9.5 percent for secondary and 1.9 percent for tertiary education. This study was carried out to assess the factors influence public procurement under free primary education programme in Kenya with reference to Machakos County. The study variables include: staff training technology, supplier management and relations and the organizational structure which will be supported by relevant theories. The study will be of benefit to the Machakos County, Government of Kenya and other researchers. The study was limited by confidentiality, nature of work, and uncooperative respondent. The target population was the District Education Officers, head teachers and support staff in procurement to give a total of 1706 with a sample size of 171 respondents. Questionnaires were the main data collection instruments. The study employed both quantitative and qualitative research in its data analysis. Data was presented using tables, pie charts and bar graphs.

**Key Words:** *public procurement, free primary education programme, Kenya, Machakos County*

### Introduction

According to Public Procurement and Disposal Act (PPDA) Act (2005) "procurement" means acquisition by purchase, rental, lease, hire purchase, license, tenancy, franchise, or any other contractual means, of any type of works, services or supplies or any combination. In service delivery, the system of delivery must view tax payers as customers; this therefore calls for placing "a high priority on delivery of personalized efficient customer service (Mourney, 1991)." He further noted that attitudes exhibited by service providers employees and managers must be

aimed at developing good working relations and ensuring that customers (tax payers/citizens) are handled well while being served.

Public Procurement is now a global discipline. Those managing the function at both local and central government levels are required to be global leaders or 'World-Class' professionals. Global leaders have desired mental characteristics which Jokinen (2005) suggests to include optimism, self-regulation, social judgment skills, empathy, motivation to work in an international environment, cognitive skills, as well as acceptance of complexity and its contradictions. The behavioral skills for global leaders include social skills, networking skills, and knowledge. As part of the efforts to adopt a long term and strategic view of their procurement needs and management, most countries have resorted to turning to their annual procurement plans as a possible 'problem-solver.' However procurement plans are hindered by corruption which diverts decision-making and the provision of services from those who need them to those who can afford them (Langseth, Kato, Kisubi & Pope, 1997).

According to Tutus (2002) a longstanding objective of U.S. trade policy has been to open new opportunities for U.S. goods, services and suppliers to compete on a level playing field for foreign free primary schools procurement. Free primary schools procurement typically comprises 10 percent to 15 percent of a country's GDP. The first major free primary schools procurement agreement was the 1979 Free primary schools procurement Agreement (GPA), which entered into force in 1981. It was revised and expanded tenfold during the Uruguay Round negotiations that led to the creation of the World Trade Organization (WTO). The new GPA entered into force in 1996. The United States includes free primary schools procurement obligations in its free trade agreements (FTAs) with the aim of ensuring that U.S. goods, services and suppliers will be given fair and non-discriminatory opportunities to compete in the free primary schools procurement of U.S. trading partners (Tutus, 2002).

According to Mark (2004) to implement U.S. obligations under the international agreements that cover free primary schools procurement, the United States waives discriminatory purchasing requirements that would otherwise be inconsistent with the international agreement. The Trade Agreements Act of 1979 (TAA), as amended, authorizes the President to exercise this waiver with respect to countries that become parties to the WTO Agreement on Free primary schools procurement (GPA) or another international agreement and will provide "appropriate reciprocal competitive free primary schools procurement opportunities to United States products and suppliers of such products." Executive Order 12260 delegates the authority to exercise this waiver to the U.S. Trade Representative.

It is stated by Debras (2006) Procurement is the process of buying goods, works or services. For instance, in terms of PPP, procurement comprises the process of buying the basic infrastructure and services. This may, for example, involve the acquisition of operation and management services for a basic service such as water supply. Procurement is often carried out by the process of tendering, rather than buying products directly from a seller. A company or organization (the

promoter, client or employer) wishing to obtain goods or services will first specify its requirements. Subsequently, it will open the bidding in a process known as tendering. Interested companies can then submit their proposals to the client (often a local government) to meet these requirements. The government offering the tender will then evaluate the bids to decide which offer best suits its requirements. The company that has been successful in the tender process will perform the work by contract.

Machakos County is an administrative County in the eastern part of Kenya. The County has 8 constituencies which are; Machakos Town, Masinga, Yatta, Kangundo, Matungulu, Kathiani, Mavoko and Mwala. The County covers 6,208 square kms and has a population of 1,098,584 as per 2009 census (Male –49 %, Female – 51 %); with an age distribution of 0 to 14 years at 39%, 15 to 64 years 56% and 5% above 65 years-break down this age distribution more (0-14, 15-29, 30-64 and over 64). Its population annual Growth Rate is 1.7 % with a current estimate of 264,500 households of which only 17% accessing electricity. Its capital town Machakos is cosmopolitan and is located 64 kilometres southeast of Nairobi.

Though the government realizes that education and training will contribute to national development, the special education unit suffers from inadequate funding and a lack of clear policy framework. The new (2003) Free Primary Education policy has made primary education compulsory to all school age children, forcing the unit's enrolment to go up. The government however only pays for instructional materials (IM) to facilitate classroom learning. The school relies on the parents and well-wishers to meet the boarding and feeding expenses. There are only a few qualified teachers who are able to handle children with special needs while facing a lack of teaching and learning resources, among other challenges. In 2007, one teacher was selected for special training on the needs of the children and is currently in charge of the unit. The special unit charges each parent a fee of KSH 1600 (€16) for every school semester (three months). Though few parents can afford this, the children are not sent home when the parents cannot afford or are unwilling to pay.

The main objective of FPE was to recognize education as a basic right of all children as articulated in the Children's Act of 2001 (RoK 2003a). At the onset of FPE in 2003, the major government task was to provide public schools with basic learning/teaching materials like chalk and textbooks, and abolish all kinds of fees levied and charges that have for decades kept a large number of children/ learners out of school. In the Economic Recovery Strategy for Wealth and Employment Creation Paper (2003-2007), the government acknowledges the fact that the country has high levels of inequality in education. The poor are disproportionately less educated and less skilled than the rich. The introduction of FPE was therefore a positive move towards achieving Universal Primary Education (UPE).

## **Problem Statement**

According to Ministry of Education statistics (2012), public spending on education and training in Machakos County increased from Ksh.2.6 billion in 2005/6 to Ksh.5 billion in 2009/10; accounting for 28 percent of the aggregate public expenditure in 2005/6 and 26 percent in 2009/10. The County's education expenditure as a percentage of GDP remained fairly constant, ranging from 6.1% in 2005/6 to 6.4 % in 2009/10. Recurrent spending of predominantly administration and teachers 'salaries, accounted for 91% of education sector public spending in 2009/10. Although low income groups benefit more from primary education expenditures, they benefit the least from investments at secondary and tertiary education compared to high and medium income groups. The gains for poorest quintile at primary level are estimated at 24.7 percent; 9.5 percent for secondary and 1.9 percent for tertiary education. This points to the need to increase access to primary education among low income groups in order for education and training to play a more significant role in poverty reduction and to address income inequalities, and ensure sustainable development and in developing high technology skills identified in Kenya Vision 2030. However, the Machakos County faces serious challenges including; resource mismanagement, poor infrastructure, corruption related to procurement, failures in monitoring, and maintenance and equipping primary schools in Machakos; all of which are going to require considerable financial investment to remedy. Equally challenging is the need to improve the efficiency in the procurement operations in the county, not least to ensure the application of efficient staffing norms, improved value added from teachers, cutting the levels of teacher absenteeism and improving the quality of teaching and learning outcomes. Locally, none of the studies has focused on factors influencing public procurement in free primary education. This study therefore was intended to fill this information gap by exploring Influence of public procurement under free primary education with reference to Machakos County

## **The General Objective**

The general objective of the study was to explore the factors influencing public procurement in the free primary education programme in Kenya.

## **Specific Objectives**

1. To find out the influence of staff training and skills on public procurement under free primary education programme in Machakos County.
2. To analyze the influence of technology on public procurement under free primary education programme in Machakos County.
3. To assess the supplier management and relations on public procurement under free primary education programme in Machakos County.
4. To establish the influence of organizational structure on public procurement under free primary education programme in Machakos County.

## **LITERATURE REVIEW**

### **Theoretical framework**

According Kothari (2004) a theory is a coherent group of tested propositions commonly regarded as correct that can be used as principles of explanation and prediction for class of phenomena. In line with this definition, the study used four theories that helps explain the arguments advanced in this study that efficient public procurement is influenced by various factors and unless these factors are looked into procurement will be affected and hence poor performance in Machakos County. The theoretical framework of the study was a structure that can hold or support a theory of a research work. It presents the theory which explains why the problem under study exists. Thus, the theoretical framework is but a theory that serves as a basis for conducting research.

### **Learning Theory**

Learning is a relatively permanent change in human capabilities that is not a result of growth processes. These capabilities are related to specific learning outcomes Reinforcement theory emphasizes that people are motivated to perform or avoid certain behaviors because of past outcomes that have resulted from those behaviours. There are several processes included in reinforcement theory. Positive reinforcement is a pleasurable outcome resulting from a behavior. Negative reinforcement is the removal of an unpleasant outcome. For example, consider a machine that makes screeching and grinding noises unless the operator holds levers in a certain position. The operator will learn to hold the levers in that position to avoid the noises. The process of withdrawing positive or negative rein forcers to eliminate a behavior is known as extinction. Punishment is presenting an unpleasant outcome after a behaviour, leading to a decrease in that behaviour.

From a training perspective, reinforcement theory suggests that for learners to acquire knowledge, change behaviour or modify skills, the trainer needs to identify what outcomes the learner finds most positive (and negative). Trainers then need to link these outcomes to learners' acquiring knowledge or skills or changing behaviours. According to reinforcement theory, trainers can withhold or provide these benefits to learners who master program content. The effectiveness of learning depends on the pattern or schedule for providing these reinforcers or benefits.

### **Instrumentalization Theory**

Much philosophy of technology offers very abstract and unhistorical accounts of the essence of technology. These accounts appear painfully thin compared to the rich complexity revealed in social studies of technology. Yet technology has the distinguishing features sketched above and these have normative implications. As Marcuse argued in *One-Dimensional Man*, the choice of a technical rather than a political or moral solution to a social problem is politically and morally significant. The dilemma divides technology studies into two opposed branches. Most

essentialist philosophy of technology is critical of modernity, even anti-modern, while most empirical research on technologies ignores the larger issue of modernity and thus appears uncritical, even conformist, to social critics (Feenberg 2003).

Instrumentalization theory holds that technology must be analyzed at two levels, the level of our original functional relation to reality and the level of design and implementation. At the first level, we seek and find affordances that can be mobilized in devices and systems by decontextualizing the objects of experience and reducing them to their useful properties. This involves a process of de-worlding in which objects are torn out of their original contexts and exposed to analysis and manipulation while subjects are positioned for distanced control. Modern societies are unique in de-worlding human beings in order to subject them to technical action—we call it management—and in prolonging the basic gesture of de-worlding theoretically in technical disciplines which become the basis for complex technical networks (Feenberg 2003).

At the second level, we introduce designs that can be integrated with other already existing devices and systems and with various social constraints such as ethical and aesthetic principles. The primary level simplifies objects for incorporation into a device while the secondary level integrates the simplified objects to a natural and social environment. This involves a process which, following Heidegger, we can call "disclosure" or "revealing" of a world. Disclosing involves a complementary process of realization which qualifies the original functionalization by orienting it toward a new world involving those same objects and subjects. These two levels are analytically distinguished. No matter how abstract the affordances identified at the primary level, they carry social content from the secondary level in the elementary contingencies of a particular approach to the materials. Similarly, secondary instrumentalizations such as design specifications presuppose the identification of the affordances to be assembled and concretized (Feenberg 2003).

This is an important point. Cutting down a tree to make lumber and building a house with it are not the primary and secondary instrumentalizations respectively. Cutting down a tree "decontextualizes" it, but in line with various technical, legal and aesthetic considerations determining what kinds of trees can become lumber of what size and shape and are salable as such. The act of cutting down the tree is thus not simply "primary" but involves both levels as one would expect of an analytic distinction. The theory is complicated, however, by the peculiar nature of differentiated modern societies. Some of the functions of the secondary instrumentalization do get distinguished institutionally rather than analytically. Thus the aesthetic function, an important secondary instrumentalization (Feenberg 2003).

### **Management Theory**

Management is the process of designing and maintaining an environment in which individuals, working together in groups, efficiently accomplish selected aims (Koontz & Weihrich 1990,). In its expanded form, this basic definition means several things. First, as managers, people carry out

the managerial functions of planning, organizing, staffing, leading, and controlling. Second, management applies to any kind of organization. Third, management applies to managers at all organizational levels. Fourth, the aim of all managers is the same to create surplus. Finally, managing is concerned with productivity this implies effectiveness and efficiency.

Managing, like all other practices whether medicine, music composition, engineering, accountancy, or even baseball is an art; it is know-how. It is doing things in the light of the realities of a situation. Yet managers can work better by using the organized knowledge about management. It is this knowledge that constitutes science. However, the science underlying managing is fairly crude and inexact. This is true because the many variables with which managers deal are extremely complex. Nevertheless, such management knowledge can certainly improve managerial practice. Managers who attempt to manage without management science must put their trust to luck, intuition, or what they did in the past.

In managing, as in any other field, unless practitioners are to learn by trial and error, there is no place they can turn for meaningful guidance other than the accumulated knowledge underlying their practice; this accumulated knowledge is theory. For practical purposes, all managers must develop three sets of skills, namely; conceptual, technical, and human (Perterson, 1994).

### **Contingency Theory**

The contingency theory of organizational structure presently provides major framework for the study of organizational design (Donaldson, 2001). It holds that the most effective organizational structural design is where the structure fits the contingencies. There are, however, several major challenges to it. Some of these are theoretical, while some are empirical. This paper will assess some of these challenges and show that they are overstated. However, some challenges lead to innovations in theory. Other challenges are accompanied by innovations in method. Both these theoretical and methodological innovations constitute opportunities for the contingency theory of organizational structure. In turn, they can feed into the study of organizational design.

The contingency theory of organizational structure may be referred to more succinctly as structural contingency theory (Pfeffer, 1982). A challenge is that structural contingency theory is static and fails to deal with organizational change and adaptation (Galunic and Eisenhardt, 1994). It is true to say the heart of structural contingency theory is statics, in the sense that it deals with how a static state of fit between structure and contingency causes high performance (Woodward, 1965). However, structural contingency theory writings are within a functionalist tradition of social science (Merton, 1968) that sees organizations as adapting to their changing environments (Parsons, 1961). Therefore, organizations change from one fit to another over time.

More specifically, there is a process that has been articulated in the theoretical model of Structural Adaptation to Regain Fit (Donaldson, 1987, 2001). An organization in fit enjoys higher performance, which generates surplus resources and leads to expansion (Hamilton and Shergill, 1992), such as growth in size, geographic extension, innovation or diversification. This

increases the level of the contingency variables, such as size, leading to a misfit with the existing structure. The misfit lowers performance, eventually leading to a performance crisis and adaptive structural change into fit (Chandler, 1962).

## Empirical Review

### Staff Training and skills

According to Cole (2002) organizations adopting systematic approach to training and development was usually about defining their need for training. In accordance with a well-organized procedure, such a procedure entails looking at training need from a number of different perspectives. The organization i.e. corporate requirements, the department, or functions, the jobs or occupational group and the individual employees. Like any other business process training can be very wasteful if it is not carefully planned and supervised. Out thought logical systematic approach some training may be given which is not necessary and vice versa or the extent of the training may be too small or too great. When the training is complete, validation will show whether it has been successful. In achieving its aims and evaluations, it will attempt to measure its costs and benefits. (Graham 1998).

Robbins (2005) says employee training is a learning experience. It seeks a permanent change in employees that improves job performance. Thus training involves changing in skills, knowledge, attitudes or behavior. This may mean changing what employees know, how they work, or their attitude towards their jobs, coworkers, managers and the organization. It has been estimated for instance that US business firms alone spend billions of dollars each year on formal course and training programs to develop workers skills Managers

Saleemi (1999) States that for a successful safety programme, safety education and training are necessary for personnel in the factory as well as in whole organization. Safety education developed safety consciousness among employees and results in safety when handling of equipment. It also ensures safe work performance on part of every employee by developing his skill in the use and operating safe equipment. During training, employees are taught the principles of first aid, how to wisely use the tools and machines how to take precautions to prevent fire accident, how to use hand tools properly and how to protect their eyes and other parts of the body. Every organization displays safety posters to promote safety publicity. Employees in the factory may be shown videos regarding safety and are asked to suggest some safety schemes.

Armstrong (2004) states that training in health and safety is the key factor in prevention of accidents. Training programme should start with induction course. It should also take place following a transfer to new job or a change in work methods. Safety training spells out rules and provides information on potential hazards and how to avoid them. Further refresher training



should be provided and special courses taken to deal with new aspects of health and safety or area in which safety problems have emerged.

James (1996) of Harvard University estimated that employees could retain their jobs by working at a mere 20-30 percent of their potential. His research lead him to indicate that if these same employees were probably motivated, get could work at 80-90 percent of their capabilities. Training could be of the means used to achieve such improvements through the effective use of learning resources.

Employees training roles is to improve skills or add to the existing level of knowledge so that the employee is well equipped to do his present job, or to prepare him for higher position with increased responsibility However, individual growth is not an end in itself organizational growth should be meshed with individual growth. The effective functioning of the organization requires that employees learn to perform their jobs at a satisfactory level of proficiency. An effective organization wishes to have amongst his ranks individuals who are qualified to accept increasing responsibilities. Through it is true that unplanned learning through job experience helps development, the experience of most organizations is that it is advantageous to plan systematic training program of various types as a regular part of an adequate personal development programmers. Such programmers are definite assets in helping managers to learn correct job methods to achieve a satisfactory level of job performance and to acquire capabilities that would be valuable in possible future jobs (James, 1996).

### **Technology**

According to Chaffy (2004) says creating on effective technology infrastructure is vital. An effective technology infrastructure is vital to all companies. Infrastructure directly affects the quality of service experienced by international and external users of the system in terms of speed and responsiveness to their requests for information. The technology infrastructure refers to the combination of hardware such as computers system with the organization. These networks used to link this software or hardware and software used to deliver the works within an organization and also to its partners and customers were reviewed. the selection of the software components of information are systematic. In this chapter we turn our effect to the hardware and men work components. Understanding the jargon of technology involved in the selection of information and communication technology is major challenge for non literature office staff and business managers.

James (1995) says changing an organization technology involves alerting its equipment engineering process research technique or production method this approach goes back to scientific management theory of Fredric Taylor production technology often has a major effect on organizational structure. For reasons technological structural or social technical approach attempted to approve performance by simultaneously changing aspect of an organization

structure and technology. Job enrichment is an example of tech nonstructural approach to change.

According to Terry (2007) says technology simplifies and reduces task needing manual skill and strengths especially in factories and either forms of production property applied can increases productivity. The use of reprogram able robots for such tasks as welding spraying material handling and other helps to eliminate dirty or harassers and repetitive work robots and computer aside manufacturing (CAM) as well as reducing costs improving quality and the consistency of finished quality and the consistency of finished products. The unused technology requirements enhance problem solving skills and the ability to interpret, and is thus likely to lead to widening guilt between skilled and non-skilled workers (Terry, 2007).

According to Gross (2005) he says that some academic and reactionary advocates that segmentation can best be accomplished when macro based are considered simultaneously with the application or used of the production line. Microsoft can see an example of such approach in the case of workers new software program development for IBM compatible personal and promotion to be done.

### **Supplier Management and relations**

Identification of when supplier relationships are appropriate, the dimensions of effective relationships and how Relationships can be a source of competitive advantage has received considerable attention in the literature. A supplier relationship is a relationship that differs with different suppliers. The goal of SRM is to streamline and make the processes between an enterprise and its suppliers more effective.

Peront and Roodhooft (2008) investigated the supplier management control system of a Volvo Cars production facility by means of an in-depth case study. Pazirandeh and Mattsson (2009) by a research sought after ways to develop a strategic and systematic method of dealing with suppliers. Based on results derived from an empirical study of 398 Chinese manufacturing companies, Cai et al. (2010) found that volume consolidation enhances supplier performance, buyer learning from the supplier and its environment learning ability. Villena et al. (2010) considered the “dark side” of social capital in buyer–supplier relationships (BSRs). Their study confirms that building social capital in collaborative buyer–supplier relationships (BSRs) positively affects buyer performance, but that if taken to an extreme it can reduce the buyer’s ability to be objective and making effective decisions as well as increasing the supplier’s opportunistic behavior. Their study also examines how a buyer can delay the emergence of the dark side. To handle ambiguity and fuzziness in supplier selection problem effectively, a new weighted additive fuzzy programming approach is developed by Yucel and Guneri (2011). Aksoy and Ozturk (2011) proposed a neural network based supplier selection and supplier performance evaluation approach, which can assist manufacturers in selecting the most appropriate suppliers and in evaluating supplier performance. The proposed neural network

based systems are tested with data taken from an automotive factory and the results show that the proposed systems can be used effectively.

### **Organizational Structure**

According to Cole (2002), the effectiveness of organizational structure can be analyzed through the five mechanisms of coordination. He states that there must be mutual adjustments that achieve the coordination of work by the simple process of informal communication. There must be direct supervision where coordination is achieved by having one individual taking responsibility for the work of others. Standardization of work process, where coordination is built in to the various work activities by specifications set procedures, programs basically scientific management ideas. There should be Standardization of work outputs coordination is achieved by means of output targets and specifications like in management by objectives and the standardization of work skills where coordination is achieved by training staff in specific knowledge and skills (Saxenal, 2002).

Effective feedback is essential to organizational effectiveness. People must know where they are and where to go next in terms of expectations and goals. Feedback can be reinforcing. If given properly, feedback is appreciated and motivates people to improve. However, in some organizations, supervisors are hesitant to give feedback. This is mainly due to fear of causing embarrassment, discomfort, fear of an emotional reaction, and inability to handle the reaction. It is crucial that organizations realize how critical feedback is to organizations development. Withholding constructive feedback is likely to affect efficiency in work (Bennet, 1997).

According to Armstrong (2000), in any business, performance management processes should be a prime source of information about individual learning and development needs and an integral part of the organization structure. The performance management approach concentrates on the preparation of performance improvement programmes and learning contracts or personal development plans, which are related to jointly determined action plans. The emphasis is on continuous development. This involves a description of work activities, including tasks performed and the knowledge, skills, and abilities required to successfully complete the tasks.

According to Cole (1996), an organization structure is the total sum of ways in which an organization divides its levels into distinct tasks and then achieves co-ordination between them. The structure is the basic framework within which the executives' decision making behavior occurs. The quality and nature of decisions made are influenced by the quality of communication in the organization. The grouping of various organizations' departments and the provision of authority should be planned so that conflicts do not occur. A structure helps in the division of work, departmentalization and shows linkage of different records and activities. Management should be interested in employee's personal lives because it creates a bond and with it trust which brings organizational benefits. Management needs to know how employees understand their roles and how they relate to them (Cole, 1996).

## Public procurement in FPE programme

The Ministry noted a high repetition and dropout rate in the school system with low enrolments because children could not afford to pay for their school fees and buy learning materials while their homes have no food to feed them before and after school. Access to formal education is handicapped by several barriers such as poverty, hunger, and poor progression of children in the system. The Government of Kenya introduced Free Primary Education in 2003. By then it planned for Kenya to realize Universal Primary Education (UPE) by the year 2005 and Education For All by the year 2015 in line with United Nations Millennium Development Goals (MDGs) agreed in the year 2000. FPE is a response to World Conference Education for all held in Jomtien, Thailand in 1990 and the World Education Forum held in Dakar, Senegal in 2000. The Government of Kenya, having accepted and signed the recommendations of these two international conferences on increasing access to education, considers attainment of UPE as a critical component of the national Development Strategy. Free Primary Education allows children to access education without discrimination. The Government has endeavoured to remove major obstacles that binder children of school-going age from accessing and completing primary education. However, many children still face serious challenges to accessing primary education, especially children living in urban slums, poor rural areas and the arid and semi-arid lands (ASAL).

With the introduction of Free Primary Education in 2003, fees and levies for tuition in primary education were abolished. The Government and development partners meet the cost of basic teaching and learning materials, teachers' salaries among other duties. Among the ckallenges facing FPE is that there are no transparent procurement guidelines for schools. Often teachers and their business associates end up as suppliers fuelling conflict of interest in the management of funds. Transparency International-Kenya has been following closely the discourse on the misappropriation of funds in the free primary education project and other donor funded projects in Kenya. TI-Kenya is saddened that resources that had been committed to benefit vulnerable Kenyans have to be refunded to donors on account of corruption and misapplication of funds. Even more disturbing is that these refunds are being made from public coffers while little effort has been made to bring those responsible to account.

## Research Methodology

### Research Design

This study employs a descriptive design to investigate the factors influencing efficient public procurement in the free primary education programme in Kenya. According to (Tromp, 2006) a descriptive design is a description of the state of affairs, as it exists. (Kerlinger, 2007) points out that descriptive studies are not only restricted to fact findings but may often result in the formation of important principals of knowledge and solution to significant problem.

### **Target Population**

Target population in statistics is the specific population about which information is desired. According to Ngechu (2004), a population is a well-defined or set of people, services, elements, events, group of things or households that are being investigated. This definition ensures that population of interest is homogeneous. Population studies are more representative because everyone has equal chance to be included in the final sample that is drawn according to Mugenda and Mugenda (1999). In order to carry out the study, at Machakos County the researcher will target the District Education Officers, head teachers and school committee members in Machakos County to give a target population of 9356, who are all personally involved in public procurement in the free primary education programme in the county, for which the Public Procurement and Disposal Act 2005 apply.

### **Sample Design**

Stratified random sampling design was used in the study. Kombo and Tromp (2006) points out that it involves dividing your population into homogenous sub groups and then taking a simple random sample in each sub group. The stratified random sampling method was best suited in this research because the population consists of different people dealing with projects within Machakos County. This method was appropriate because it was able to represent not only the overall population but also the key sub groups at the populations. It also minimized biasness.

The general procedure for taking a stratified sample was to stratify population, defining a number of separate partitions using sample size, and then the researcher combined the results to obtain the required stratified sample. The sample will be therefore being drawn from each stratum from which respondents was selected. The study took a proportion of 10% from each category to give a sample size of 936.

### **Data Collection**

The researcher used of primary data and secondary data. The source of primary data was a questionnaires that was used to source for crucial information from the target population in Machakos County. The questionnaires were made up of several questions, which were prepared by the researcher. The questions was both open and closed ended and was hand delivered to the respondents seeking the required detailed information and picked at a later date from them. Semi structured questions was used by the researcher to compute and also it allowed the respondents to give out clearly their opinions about the research/the problem under study. The source of secondary data included magazines which were gotten from the County management, the County journals, and other written documents which were discovered from the County records. The secondary data collection instruments assisted the researcher to do comparison of the information that was received from the employees through questionnaires which were issued. The researcher obtained an introductory letter from the university to collect data from Machakos County then personally delivered the questionnaires in the respondents and had them filled in his presence.

## Data Analysis Methods

Larsson (2006) indicated that data analysis is the process of breaking complex information or substance into smaller parts to gain a better understanding of it. The data that was collected was checked adequately for reliability and clarification. The data was then coded to enable the responses to be grouped into various categories. Data was grouped into frequency distribution to indicate variable values and number of occurrences in terms of frequency. The data was then analyzed using quantitative and qualitative techniques. Content analysis and descriptive analysis was employed. The content analysis was used to analyze the respondents' views about the factors influencing public procurement in the free primary education programme in Kenya. Tables and other graphical presentations as appropriate was used to present the data collected for ease of understanding and analysis. The organised data was interpreted on account of concurrence and standard deviation to objectives using assistance of computer packages especially SPSS and Microsoft Excel to communicate research findings. Regressions and ANOVA test was used to analyze the factors influencing public procurement in the free primary education programme in Kenya. Equation below represented the inferential statistics model related to the study. According to the model used to represent the relationship between public procurement in the free primary education programme as a linear function of the independent variables i.e. Staff training and Skills, Technology, Supplier management and relations, Organization structure. The study appreciates that there are other factors influencing efficient public procurement in the free primary education programme in Kenya apart from the variables being investigated hence the need to incorporate the error term.

$$Y' = A + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4$$

Where: Y'=Dependent variable and X1, X2, X3, and X4 are the four independent variables

Where: Y'- public procurement in the FPE

X1- Staff training and Skills

X2- Technology

X3- Supplier management and relations

X4- Organization structure

## Research Results

### Regression analysis

The researcher conducted a multiple regression analysis so as investigate the factors influencing efficient public procurement in the free primary education programme in Kenya with reference

to Machakos County. The researcher applied the statistical package SPSS, to enter and compute the measurements of the multiple regressions for the study as presented below.

**Table 1: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.608 <sup>a</sup>	.852	.896	.99757

a. Predictors: (Constant) staff training and skills, technology, supplier management and relations and organizational structure relations.

b. Efficient public procurement in the free primary education programme in Kenya.

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (Efficient public procurement in the free primary education programme in Kenya) that is explained by all the 4 independent variables (staff training and skills, technology, supplier management and relations and organizational structure relations). The four independent variables that were studied, explain 75.2% of variance to establish factors influencing efficient public procurement in the free primary education programme in Kenya as represented by the R<sup>2</sup>. This therefore means that other factors not studied in this research contribute 24.8% of variance in the dependent variable. Therefore, further research should be conducted to investigate the factors influencing efficient public procurement in the free primary education programme in Kenya.

**Table 2: ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.686	3	3.671	17.478	.000 <sup>b</sup>
	Residual	91.193	417	.356		
	Total	102.879	421			

a. Predictors: (Constant) staff training and skills, supplier management and relations and organizational structure relations.

b. factors influencing efficient public procurement in the free primary education programme in Kenya

The F critical at 5% level of significance was 3.56. since F calculated is greater than the F critical (value 17.478), this shows that the overall model was significant. The significance is less than 0.05, thus indicating that the predictor variables, explain the variation in the dependent variable which is factors influencing efficient public procurement in the free primary education programme in Kenya. If the significance value of F was larger than 0.05 then the independent variables would not explain the variation in the dependent variable.

**Table 3: Multiple Regression Analysis**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	8.978	.994		9.110	.000
Staff training and Skills	.370	.217	.282	2.402	.005
Supplier Management and relations	.405	.248	.266	2.055	.003
Organizational Structure Relations	.491	.280	.285	2.185	.001

The regression equation ( $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3$ ) was interpreted to mean

$$Y = 8.978 + .370X_1 + .405X_2 + .491X_3$$

Y= Factors influencing efficient public procurement in the free primary education programme in Kenya

X1 is Staff training and Skills, X2 is Supplier Management and relations and X3 is Organizational Structure Relations. According to the equation, taking all factors (staff training and skills, supplier management and relations and organizational structure relations) constant at zero, overall Factors influencing efficient public procurement in the free primary education programme in Kenya will be 8.978. The data findings also show that a unit increase Staff training and Skills will lead to a 0.370 increase efficient public procurement in the free primary education programme in Kenya; a unit increase in Supplier Management and relations, will lead to a 0.405 increases in efficient public procurement in the free primary education programme in Kenya and a unit increase in Organizational Structure Relations Will lead to a 0.491 increase in efficient public procurement in the free primary education programme in Kenya. This means that the most significant variable is Staff training and Skills followed by Supplier Management and relations.

Regression analysis is utilized to investigate the relationship between a range of variables, these including an error term, whereby a dependent variable is expressed as a combination of independent or explanatory variables, and “the unknown parameters in the model are estimated, using observed values of the dependent and explanatory variables” (Stoodley, Lewis and Stainton, 1980: 35). Multiple linear regression analysis was the technique used to test the hypotheses. The following represents the regression equation, according to the model used to represent the relationship between Influence of public procurement as a linear function of the independent variables (Staff Training and skills, Information technology, Supplier Relationship



management, Organizational Structure), with  $\epsilon$  representing the error term (Stoodley, Lewis and Stainton, 1980: 36):

$$Y_i = \alpha + \beta_1(\text{STS}) + \beta_2(\text{IM}) + \beta_3(\text{ST}) + \beta_4(\text{MHE}) + \epsilon. \text{ When } \beta_5=0$$

(Equation 1: Regression Equation)

Where:  $Y_i$ = Influence of public procurement  
 STS= Staff Training and skills  
 IT= Information technology  
 SRM= Supplier Relationship management  
 OS= Organizational Structure

$$Y_i = \alpha + 0.365 (\text{STS}) + 0.96 (\text{IT}) + 0.97 (\text{SRM}) + 0.787 (\text{OS})$$

(Equation 2: Regression Equation with Beta Values)

The  $\beta$ s in the above equation represent the estimated parameters as indicated above. Advantages associated with multiple regression analysis are that this process offers a more accurate explanation of the dependent variable in that more variables are included in the analysis, and that the “effect of a particular independent variable is made more certain, for the possibility of distorting influences from other independent variables is removed” (Lewis-Beck, 1986: 47).

## Summary of findings

### Staff training and Skills

According to the analysis of the findings, majority of the respondents indicated that they Staff training and Skills facilitated by Machakos County influences efficient public procurement in free primary education programme in Machakos County. The study further revealed that senior management staff in charge of Procurement management attended formal training very often in comparison to the lower cadre staff. It is also worth noting that none of the respondents indicated that they had never attended training which is a clear indication that Machakos County management encourages its employees to sharpen their skills through both in-house and outside training. The respondents indicated that the training was both in house or outside workshops and seminars with a majority indicating outside seminars and workshops. However all respondents indicated that they had attended either or both. Tas (2008) recognized career specialty training provides employees with the opportunity to enhance knowledge, skills, and abilities necessary to perform jobs beyond the minimum level. It also allows employees the opportunity to explore new areas of interest and specialization that will enhance abilities and skills in other specialized jobs.

### **Technology**

Based on the findings of the study, majority of the respondents indicated that information technology influence efficient public procurement in free primary education programme in Machakos County while very few of respondents disagreed this findings concurs with

Karplus (2007) in a study on innovation in China's energy revealed that technology was a major factor influencing efficient procurement in China's energy sector. They recommended that high level of technology be adopted in order to increase throughput or service delivery with higher level of accuracy and reliability in a diligent manner, improve service quality or increased predictability of service quality and improve robustness (consistency) of the service provision.

### **Supplier Management and Relations**

According to findings Supplier Management and Relations was one among the key factors influencing public procurement under free primary education programme in Machakos County. It was found that, regulations among the Suppliers in the public procurement, highly contributes to the quality and the quantity to be purchased. Procurement regulations were noted to be among the key factors which highly of improves the process to a great extent.

### **Organizational Structure Relations**

The majority response indicated that organizational structure influences public procurement under free primary education programme in Machakos County to a large extent. In this regard the respondents indicated that the organization that has good structure is always in a better position to perform better since the activities will be well and effectively coordinated in all departments.

### **Public Procurement under Free Primary Education Programme**

Finally the study found out that priority on key factors that influence public procurement under free primary education programme in Machakos County are Competation, Government policies; to remain competitive on the technological and innovations front ;to achieve and maintain profitability to win public confidence ;need to transform from dynamic change in free primary education programme needs on product offering and technology ; and to increase Confidence and enhance supplier relationship.

The study also found out that there is use of the strategy by Counties as reorganization of suppliers with diverse expertise; use of Technology and innovations to attract clients and deliver services; use of diversification of ownership structure; use of access to affordable source of capital; use of competent and skilled Staff team so as influence public procurement under free primary education programme.

## Conclusions

Based on the findings, it can be concluded that Staff personnel in free primary education in machakos county attended formal training facilitated by the ministry of education which included workshops, seminars and training sessions. In relation to staff training, the study concluded that a significant proportion of the staff personnel were furthering their education in institutions of higher learning indicating the commitment of staff in promoting career development/enhancement among among them. Watson (2002) recognized that systematic training of workers was one of the best practice rather than allowing them personal discretion in their tasks. He further believed that the workload would be evenly distributed between the workers and management with management performing the instruction and the workers performing the labor, each group doing the work for which it is best suited.

## Recommendations

The study recommended that Machakos County should encourage more of its employees to further their education by enrolling in institutions of higher learning and tertiary colleges in order to achieve the required development objectives and the range of competencies, knowledge and skills which are necessary to meet effectively the career development needs of human resources handling procurement operations. The study also recommended that proficiency in-service training as a component of the career development initiative must be closely coordinated with the organization's training efforts. This benefits both the County and its employees by keeping them up-to-date on duties and responsibilities within present job assignments as procurement personnel. It also allows procurement managers the opportunity to maintain those skills and abilities necessary for the job they perform. Arnaldo, (2001) in his study argued that the adoption of a simple solely task-related model of training – often used to train employees has proved to be inadequate in imparting the relevant skills to employees handling public procurement operations.

The study recommended that Machakos County fully automates its procurement operations besides replacing obsolete IT equipments with modern ones. The greatest potential of automation is not expected to be from the improvement of clerical and administrative tasks, but from the ability of managers and other procurement personnel to gain increased control over their operations. The major reasons as to why Machakos County should consider fully automated systems are; first is a critical need to improve the productivity of employees. The second reason for interest in automation is the increasing complexity of county decision making and information needs. Bocij, Chaffey and Hickie (2003) were of the view that the correct incentive for applying automation is to increase productivity, and/or quality beyond that possible with current human labor levels so as to realize economies of scale, and/or realize predictable quality levels.

In relation to the supplier management and relations, the study recommended that there is need for overhaul or improvement of the existing supplies management technique in order to optimize

resources and achieve a balance of not wanting to hold too much. Adeyemi and Salami (2010) found that supplier management was vital in the control of materials and goods that had been held (or stored) for later use in the case of production or later exchange activities in the case of services. The study further indicated that an appropriate supplier management technique could lead to business success and vice versa. The conclusion made was that effective supplier management could make significant contribution to public procurement management thus impacting on a Machakos county profit as well as increased returns on total assets.

As pertains to the organizational structure the study recommended that it should be the done in a way that will allow the management to coordinate all the activities within the county with a lot of ease and without delay. The organization structure should be created in a way that will enable all the departments to work jointly and the one which can enhance effectiveness in the processes taking place in the organization.

## References

- Armstrong G. and Koltler P. (1997) *Marketing And Introduction* 4<sup>th</sup> edition, MC Graw hill publishers Hall, New Jersey, United States of America.
- Armstrong G. (2004) *Marketing And Introduction* 4<sup>th</sup> edition, MC Graw hill publishers Hall, New Jersey, United States of America.
- BarleyG. (2005) *Management Theory Practice* 5<sup>th</sup> edition DP publishers New Mexico
- Baily PJH (1994) *Purchase and Supply*, 4<sup>th</sup> edition, Desktop Publishers, Madrid, Spain
- Barrie G. (2000) *Marketing And Introduction* 4<sup>th</sup> Edition, Published By Harvard Business School Press New Jersey, U.S.A
- Belch G. (1992) *Management Theory Practice* 7<sup>th</sup> edition DP publishers New Mexico
- Cole G. (2002) *Management Theory Practice* 5<sup>th</sup> edition DP publishers New Mexico
- Debras D. (2006) *Procurement Strategies* 5<sup>th</sup> edition Jaico publishing house. New Delhi
- Desanctis and poole (1994) *Management Theory Practice* 5<sup>th</sup> edition DP publishers New Mexico
- Decenzo & Robbins (2005) *Management Theory Practice* 2<sup>th</sup> edition DP publishers New Mexico
- Evans. L (1990), “The relationship between inventory operations and human capital: an exploratory study”, *Journal of Management Studies*, Vol. 35 No. 6, pp. 823-53.
- Graham and Bannet, (1998.) *Qualitative Research and Evaluation Methods* (3<sup>rd</sup> Edition). London: Sage Publications.
- Girman S. (2006) *procurement steps* 11<sup>th</sup> Edition. British library catalogue publishers, Mexico.
- Gikonyo. F.(2008). Constitution of Society: An analysis. *International Journal of Management*,23 (4), 845-850.
- Gross B. and Meridith F. (2003) *Business, Marketing Prentice* 6<sup>th</sup> edition by prentice hall publishers, San Francisco
- Gross A. (2005) *Practice Of Procurement* 8<sup>rd</sup> edition DP publishers New Mexico
- Goodrich, J. (1970). *Research in psychology: Methods and design*. USA: John Wiley & Sons,

- Goodwin, C. J. (2005). *Research in psychology: Methods and design*. USA: John Wiley.
- Gopalakrishnan, P. and Sundaresan, M. (2006). *Materials Management: An Integrated Approach*, Prentice Hall, New Delhi.
- Ilori, M. O., Oke, J. S. and Sanni, S. A. (2000). Management of New Product Development in Selected Food Companies in Nigeria. *Technovation*, 20 (2000) (1996): 333-342.
- Government of Kenya (2012). Report on Totally Integrated Quality Training for managers in the public sector (Nairobi, Government Printer).
- Houtzeel, A. (1992). "Computer integrated Material Handling System." *Proc. of 1992 Academic Practitioners Liaison Operations Mgmt. Workshop*, American Production and Inventory Control Society, pp23-37.
- Jackson A. (1998) *Practice Of Procurement* 3rd edition DP publishers New Mexico
- John N. (2003) *Management*, 9<sup>th</sup> edition, Ashford Color Press, Hampshire UK.
- Kerlinger (2009) *Research Strategies* 2<sup>nd</sup> Edition, Published By Harvard Business School Press New Jersey, U.S.A
- Kombo & Tromp (2006) *Research Tools* 3<sup>rd</sup> edition Jaico Publishing House, New Delhi.
- Kothari, C.R (2004) *Research methodology; Methods and techniques*.New Delhi; New Age International (p) ltd publishers.
- Kotler, J. (1967). *Innovation in China's energy*.Center for Environmental Science and Policy. Retrieved 17<sup>th</sup> may 2012 from <http://pesd.stanford.edu>
- KIPPRA (2007). *A comprehensive study and analysis on energy consumption patterns in Kenya*.
- Madara Ogot et el (2009) *The Long Term Policy framework for public Procurement in Kenya*,
- Mark S. (2004) *Procumbent Practice*, 3<sup>rd</sup> edition, Desktop Publishers, Madrid, Spain.
- Martin and Taylor (2006) *Economics* 2<sup>nd</sup> edition, British library catalogue publishers Atlanta's
- Matata T. (2011) *Economics* 1<sup>nd</sup> edition, British library catalogue publishers Atlanta's
- Neuman, W. L. (2000) *Social Research Methods: Qualitative and Quantitative Approaches*. Fourth Edition. Boston.
- Mugenda and Mugenda (2003) *Research Methods* 2<sup>nd</sup> edition jomo Kenyatta publishers Nairobi.
- Mugenda and Mugenda (1999) *Research Methods* 1<sup>nd</sup> edition jomo Kenyatta publishers Nairobi.
- Murungani S. (2002) *Budget Implementation*, 3<sup>th</sup> Edition, DP Publishers, New York USA.
- NACCSC. L (2008), "The relationship between inventory operations and human capital: an exploratory study", *Journal of Management Studies*, Vol. 35 No. 6, pp. 823-53.
- NACCSC. L (2011), "The relationship between inventory operations and human capital: an exploratory study", *Journal of Management Studies*, Vol. 45 No. 6, pp. 823-53.
- Neuman, W. L. (2000) *Social Research Methods: Qualitative and Quantitative Approaches*. Fourth Edition. Boston.
- Osdorne, M.J. & Rubinstein, A (1990): *Bargaining and Markets*. Academic Press, Inc., San Diego.

- Ondieki.N (2008.) *Qualitative Research and Evaluation Methods* (3<sup>rd</sup> Edition). London: Sage Publications.
- Orodho. P (2003). *Operations Management for Competitive Advantage: A survey of Transport industry in Kenya: Masters Thesis*. Eldoret: Moi University
- Philip F. (2000) *The Comparative Advantage of Nations*, 4<sup>th</sup> edition, Macmillan, London, UK.
- Ramakrishna, R. V. 2005. *Materials Management - Profit Centre*. Indian Institute of Materials Management Knoelwde Bank.
- Robbins P. (1999), *Procurement Process* 11<sup>th</sup> edition Ashford Colour Press, Hampshire
- Saleemi A. (1999) *Personal Management* Jomo Kenyatta Publishers Ltd. Nairobi
- Summer P. (2004), *Procurement Process* 11<sup>th</sup> edition Ashford Colour Press, Hampshire
- Netessine, S., and Shumsky, R.: *Revenue Management Games* (2001): Horizontal and Vertical Competition. University of Pennsylvania, working paper.
- Shingo, S. (2005). *A Revolution in Material Handling in the Manufacturing sector: The SMED System*. Cambridge, MA: Productivity Press.
- Ppith (1998) *Country Procurement Assesppent Report*, Jomo Kenyatta Foundation, Nairobi, Kenya.
- Tutus A. (2002) *Procurement Ethics* 5<sup>th</sup> edition DP publishers New Mexico
- Weill, P. (1984). *The relationship between investment in information technology and firm performance: A study of valve manufacturing sector*. Center for Information Systems Research: Sloan School of Management.