

**THE IMPACT OF VALUE ANALYSIS IMPLEMENTATION ON
SERVICE DELIVERY AT KISUMU POLYTECHNIC**

BY

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DECLARATION

This research project report is my original work and has never been presented for any award in any University.

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DEDICATION

I dedicate this project to my wife Jedidah Aluoch, for her support and encouragement during this Masters Program. To my children, Peter, Davis and Glein for their continued encouragement.

ABSTRACT

In the age of increasing competition for financial resources, innovation and improved value across all industries and levels of government, Value analysis methodology has become useful in government, process design, construction, and manufacturing industries as a tool to optimize projects, administration, business and manufacturing processes, and to facilitate product development. The benefits of value analysis include decreasing costs, increasing profits, improving quality, improved speed of service delivery and performance, and enhancing customer satisfaction. Although it is the government of Kenya policy to ensure the delivery of quality technical training at low cost, it has remained elusive. Various interventions have been sought and implemented by the policy makers to improve on service delivery and performance. For example a series of management strategies have been designed and implemented, but still the cost of training has remained high, performance in national examination has remained poor, especially in engineering trades, laxity in service delivery speed, inadequate technological approaches and lack of operational coordination in most institutions. As a result of these Kisumu Polytechnic implemented Value analysis, though defined as process re-design and cost reduction strategy to address these problems. The main objective of this study was to establish the impact of Value analysis implementation on service delivery at Kisumu Polytechnic, the study specifically, sort to determine the impact of VA on the following variables; Cost reduction, examination result, speed and quality of service delivery, management system improvement vendor relations, enhancing customer satisfaction and improved operational coordination. The study was carried out using a descriptive research design. Respondents of the study comprised 345 respondents, distributed as follows; students 280, staff 45 and suppliers 20. Primary data was collected by use of structured questionnaires and interviews which were presented on the Principal, the deputy Principal and the Registrar. Descriptive statistics and content analysis was used to summarize the data. The results have been presented using tables. The study concludes that the staffs at Kisumu Polytechnic are aware of the implementation or operationalization of VA. The findings revealed that improvement on most services have been realized to a medium extent. The examination administration, cost reduction, technology (MS) have not reasonably improved. On the other hand the institution has done well on vendor relation, payment of cheques and generally procurement processes. The institution appreciated that proper coordination must be established and reliable teams must be put in place to oversee value analysis process, so that the desired improvement index can be realized. The study recommends that the quality of service delivery need to be improved to attract and retain customers (students). Top management should support the implementation of VA at Kisumu Polytechnic. Technology to be improved and that roadblock to collaboration between departments need to be addressed. Staff training and competence be encouraged and offered to the staff and finally practical training procedures for the students need to be improved and enhance accordingly. The study suggests that for the success of VA implementation, standard VA implementation schedule or procedures need to be followed to the latter. The study recommends that further research should be conducted on the Challenges of Value analysis implementation on service delivery at Kisumu Polytechnic and that further research on the impact of Value analysis on service delivery be done on other colleges, Universities and industries in Kenya.

TABLE OF CONTENT

DECLARATION.....	i
ACKNOWLEDGEMENTS	ii
DEDICATION	iii
ABSTRACT	iv
TABLE OF CONTENT.....	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
CHAPTER ONE: INTRODUCTION	1
1.1 Background of the study.....	1
1.1.1. Concept of value analysis	5
1.1.2 Service delivery.....	10
1.1.3 Kisumu Polytechnic.....	11
1.2 Research Problem.....	14
1.3 Objectives of the study.	17
1.4 Value of the study.....	17
CHAPTER TWO: LITERATURE REVIEW	18
2.0 Introduction.....	18
2.1 Value analysis.	18
2.2 The impact of value analysis on service delivery.	20
2.3 Challenges of value analysis implementation.....	21
2.4 Cost and value on service delivery.....	23
2.5 The focus and stages in value analysis implementation.	25
CHAPTER THREE: RESEARCH METHODOLOGY AND DESIGN.....	32
3.0 Introduction.....	32

3.1	Research design.....	32
3.2	Population.	32
3.3	Sample design.	32
3.3.1	Sample size.	33
3.4.2	Sampling procedures.	34
3.4	Data collection.....	34
3.5	Data analysis and presentation.	35
CHAPTER FOUR: DATA FINDINGS, ANALYSIS AND PRESENTATION.....		36
4.0	Introduction.....	36
4.1	Response rate.	36
4.1.1	Personal information of the respondents.	37
4.1.2	Students responses.....	37
4.1.3	Suppliers responses	39
4.1.4:	Staff responses.....	40
4.2	Response from the Principal, D/ principal and Registrar.	42
4.3.1	Response by suppliers.	46
4.3.3	Response by Staff.....	48
4.4	VA implementation awareness at Kisumu Polytechnic.	50
4.5	Summary of respondents rating.....	51
4.4.1	Single factor analysis of variance (ANOVA) for respondents.	51
4.4.2	The variation between the groups	52
4.4.3	Interpreting the F-statistics	53
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND.....		54
RECOMMANDATIONS		54
5.0	Introduction.	54
5.1	Summary of the findings.....	54
5.2.1	Value analysis implementation awareness at KP.	54

5.2.2	The impact of value analysis implementation on service.....	55
5.3	Conclusions.....	57
5.4	Recommendations.	58
5.4	Areas for Future Studies.	59
REFERENCE		60
APENDICES.....		64
APPENDIX I: QUESTIONNAIRE		64
APPENDIX II: INTERVIEW SCHEDULE FOR THE PRINCIPAL,THE DEPUTY PRINCIPAL AND THE REGISTRAR OF KISUMU POLYTECHNIC.....		68
APPENDIX III: WORK PLAN.....		69
APPENDIX IV: BUDGET.....		69

LIST OF TABLES

Table 3.1 Study Population and Sample Distribution	26
Table 4.1.: Questionnaire return rate	28
Table 4.2: Students Response per department	37
Table 4.3: Students response per year of study.....	38
Table 4.4: Students respondents by age.....	38
Table 4.5: Students response by gender	39
Table 4.6: Suppliers respondents by gender	39
Table 4.7: Suppliers respondents by Age	39
Table 4.8: Suppliers respondents by Educational qualification	40
Table 4.9: Respondents Position in the Departments.....	40
Table 4.10: Staff respondents by age.....	40
Table 4.11: Staff respondents by gender	41
Table 4.12: Staff respondents Duration of work at KP	41
Table 4.13: Staff respondents by educational qualification.....	41
Table: 4.14: Students rating of VA implementation on service delivery	44
Table 4.15: Suppliers' rating of VA implementation service delivery.....	46
Table 4.16: Staff awareness response on the implementation of VA at Kisumu Polytechnic.....	50
Table 4.17: Overall variable rating of the impact of VA implementation at KP by Students,.....	51
Suppliers and Staff	51
Table 4.18: Single factor analysis of variance.	51

LIST OF FIGURES

Figure 1.1	The Kisumu Polytechnic organogram	13
Figure 2.1	Steps in the implementation of VA	29
Figure 2.2	Conceptual analysis.	28

LIST OF ABBREVIATIONS

GE	General Electric Company
GOK	Government of Kenya
HODs	Heads of departments
KP	Kisumu Polytechnic
MOHEST	Ministry of Higher Education Science and technology
SAVE	Society of American Value engineers
SS	Support staff
TQM	Total Quality Management
VA	Value analysis
VAVE	Value analysis and value engineering
YCE	Yukon consulting engineers

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Value Analysis technique was developed after the Second World War in America at General Electric Company during the late 1940s. Since this time the basic Value analysis approach has evolved and had been supplemented with new techniques that have become available and have been integrated with the formal VA process, (Clawson, 1970). Today, VA is enjoying a renewed popularity as competitive pressures are forcing companies to re-examine their product ranges in an attempt to offer higher levels of customization without incurring high cost penalties. In parallel, many major corporations and organizations are using the VA process with their suppliers to extend the benefits of the approach throughout the supply chain. Many businesses, big or small, have therefore benefited from understanding and application of the VA process. It is likely that those companies and organizations that do not take their time to develop this capability have faced an uncertain future as the lessons and problems of the past are redesigned into the products of the future. Thus VA has been instrumental in offering competitive advantage to those organizations that have practiced it, in terms of quality, performance, speed to market and overall service delivery strategy (Holweg & Rich2010).

Lawrence D. Miles developed Value Analysis (VA) at General Electric Company in 1947. The technique simultaneously pursued two complimentary objectives; maximizing the utility provided by the product or service and minimizing or eliminating waste (Miles, 1961). Toward this end, the value content of the product or process realized by the consumer is defined. Using the user's definition of value as a filter, the product's components or the steps in the production or service-delivery

process are classified as either value-added or non-value-added. The analyst's goal is to eliminate as much of the non-value-added elements as possible by reengineering the design of the product or process. Equally important, the analyst also considers the possibility of substituting functionally equivalent elements for the value-added elements of the product or process design. In the latter case, a substitution is justified when the functionality of the element is maintained or enhanced at a reduced cost to the producer (Kaneo, 2003).

As documented by Jay et.al. (2010) Value analysis, originated in the industrial community during World War II when critical material shortages forced many manufacturers to substitute materials and designs. When the General Electric (GE) Company found that many of the substitutes were providing equal or better performance at less cost, it launched an effort in 1947 to improve product efficiency by intentionally and systematically developing less costly alternatives. The concept quickly spread through private industry as the possibilities for large returns from relatively modest investments were recognized though it was a humble concept developed at General Electric Company by Larry D Miles. In a nutshell, it is unusual for any individual to create an entire intellectual discipline single handedly, but that is literally what we are dealing with in the case of Miles' brainchild-Value analysis and value engineering. It also unusual for any individual to postulate and have accepted in his own lifetime a method of thinking and problem solving which has such broad appeal and which is now utilized by so many people for such a wide variety of situations and problem types, but that is precisely what Larry Miles accomplished in his lifetime, (Miles, 1961).

Value analysis is defined as the elimination of those parts, activities or processes of an existing product or service that do not affect the quality, functioning or operation of a system, but still incur cost (Roy, 2008). It is also defined as a systematic and objective evaluation of the value of a good or service, focusing on an analysis of function relative to the cost of manufacturing or providing the item or service. Value analysis provides insight into the inherent worth of the final good or service, possibly altering specification and quality requirements that could reduce costs without impairing functional suitability, (McGinnis, 2005).

Value analysis and value engineering are two terms that have been used synonymously and the philosophy underlying them is the same i.e. unnecessary cost elimination. The difference lies only in the time and the phase of product life cycle at which the technique is applied. Value analysis is applied to the existing product or service with a view to improving its value, it analyses facts, structures and procedures and give remedial actions and activities to improve the service delivery functions of an organization, on the other hand Value Engineering is applied to the product or service at design stage and thus ensures prevention of cost rather than elimination. The ultimate aim of both value analysis and value engineering is to improve service delivery at optimal cost (Murthy, 2010).

In an age of increasing competition for financial resources, innovation and improved value across all industries and levels of government, Value analysis methodology has become useful in government, process design, construction, and manufacturing industries as a tool to optimize projects, business and manufacturing processes, and to facilitate product development. The benefits of value analysis include decreasing

costs, increasing profits, improving quality and performance, and enhancing customer satisfaction (SAVE, 2010).

Holweg & Rich (2010) found out that at the very heart of the VA process review there is a concern to identify and eliminate product and service features that add no true value to the customer or the product, but incur cost in the process of manufacturing or provision of the service. As such, the VA process is used to offer a higher performing product or service to the customer at a minimal cost as opposed to substituting an existing product with an inferior solution. This basic principle, of offering value at the lowest optimal cost of production, is never compromised. It is the principle that guides all actions within the VA process and allows any improvement or ideas to be translated into commercial gains for the company and its customers.

For many of the world's leading companies, including names like Hewlett Packard, Sony, Panasonic, Toyota, Nissan, and Ford, the VA process of design review has provided major business returns, both in terms of service delivery, performance and cost reduction. The key to realizing these returns is knowledge, of the customer requirements, the costs of the product, and an in-depth knowledge of manufacturing process and the costs associated with failures due to poor or inadequate product design. All these inputs to the VA process are vital if decisions regarding product and process re-design are to yield lower costs and enhanced customer value and performance (Williams, 2010).

According to Miles, (1961) Value analysis developed from a necessity to provide the same performance functions at a reduced cost and this was particularly true during

World War II. Juran in 1979 discovered that shortage of materials drove many companies to find substitute materials or designs for the specified materials and components. Shortages therefore gave “many opportunities for improvement”. In the quest for continual improvement, techniques such as value analysis and value engineering are being increasingly utilized as a systematic method to assess products and services with the objective of reducing costs while retaining or indeed increasing performance,(Sharma, 2010).

1.1.1 Concept of value analysis

Value analysis as a concept provides insight into the inherent worth of the final good or service, possibly altering specification and quality requirements that could reduce costs without impairing functional suitability. Value analysis refers to the analysis of an existing product, service, or administrative process with an effort to improving the overall functionality, performance and quality but at optimal cost (McGinnis, 2005).

Adam (1993), states that Value analysis means many things to many people, such as standardizing supply decisions or making decisions about evaluating new products, “Fundamentally, value analysis is a process to analyze and find opportunities to improve the value of any product or service where value equals quality divided by cost. While the term can be confusing and has become overused, value analysis is an incredibly important activity, not just in manufacturing, but for all areas of management systems. Adams further explains that many future changes on a global level will be based on maximizing the value side of the equation, i.e. value = quality/cost.”

VA uses function analysis and FAST diagramming to describe the functional relationship of the product, process, or service and identify functions where the team should focus on improving value. Value analysis is a systematic method to improve the "Value" of goods and services by using an examination of FUNCTION. Value, as defined, is the ratio of Function to Cost. Value can therefore be increased by either improving the Function or reducing the cost. The primary tenet of Value analysis is that the quality should not be reduced as a consequence of pursuing reduction in cost, (Wixon, 2010).

The first task facing any value analyst is to operationally define value within the context of a particular product or process. In doing so it is important to acknowledge that value is subjective. Just as beauty lies in the eyes of the beholder, value is highly dependent upon perspective. Therefore, it is useful to recall that all products and processes have multiple stake-holders. Indeed, in operationally defining value, an analyst should consider the perspectives of end consumers, individuals making the purchasing decision, suppliers, employees, managers, creditors, investors, regulators, and even the local community. While not all of these potential stakeholders will be concerned with every product or process, an initial consideration of which perspectives to consider is helpful in identifying a robust definition of value to drive the extended analysis. Frequently, the analyst will discover that the different perspectives will lead to conflicting definitions of value. While this complicates the task at hand, honing on an acceptable definition of value often requires balancing competing demands (Williams, 2010).

The value of a product or service may be interpreted in different ways by different customers. Its common characteristic is a high level of performance, capability, emotional appeal or style relative to its cost. It can also be expressed as maximizing the function of a product relative to its cost (Crow, 2002). Holweg & Rich (2010) asserts that VA process is therefore one of the key features of a business that understands and seeks to achieve Total Quality Management (TQM) in all that it does to satisfy customers.

Value analysis can enhance products, production processes, services, and administrative processes. The process requires a combination of technical and interpersonal skills. The former generates the ideas that enable an organization to survive and prosper in a competitive environment. The later enables you to facilitate ideas through the labyrinth of organizational obstacles that often have to be liberated, (McGinnis, 2005).

In USA, value analysis and value engineering has been extensively applied in construction industry and has given some useful frameworks on cost reduction without compromising quality, (Sharma, 2010). As reported by (Yukon consulting engineers, 1995) experience in the United States shows that a typical VA study have realized savings of over 5% of the capital cost of a project, and achieved a return of over ten dollars per dollar expended. Recent experience in British Columbia demonstrates similar results. The report further analyses that VA study costs are about 0.4 percent of total construction costs, which is relatively low compared to potential benefit. The report further stated that, upon completion of a VAVE study the owner

will have confidence that a cost effective, delivery speed and quality design has been achieved in a system or process.

In India VA is mostly associated to any alternative design with the intention of cost cutting exercise for a project, which is merely one of the initial intentions of the VA, (Sharma, 2010). Roy (2008) also stated that value analysis has been adopted well in the manufacturing industry, it is reported that, TISCO PVT. India, Escort Yamaha, Kelvinator Limited have reported a lot of savings, speed to market and improved quality on their production processes as a result of value analysis implementation in their management systems.

In Kenya value analysis has never been used much as a management systems approach as compared to other imports like; change management, total quality management, downsizing, restructuring, benchmarking, design and systems development and process mapping, basically it has been practiced so often in the manufacturing sector and the construction industry to eliminate unnecessary design incorporation that do not add value or functionality on the end product, (Satish, 2001). The studies that have been done on value analysis have basically been done on its impact on industrial manufacturing processes and the construction industry. For example study done by Satish (2001), at Basco paints Limited established that the adoption of value analysis eliminated waste in a production process, improved production processes and increased customer satisfaction at a reduced overall cost cycle of production. It is also reported that a saving of upto 68% has been realised in a construction project where VA have been adopted as a tool for process management.

A case study done by Maina (2012), on Isiolo-Marsabit road on the implementation of value analysis established that a saving of up to 68% was realized and this never hampered the time element on delivery of the project and quality of work desired. In this entire readership it has been established that, no known research has been done to establish the impact of value analysis implementation on service delivery in Technical Training Colleges in Kenya.

Educational institutions functioning are similar to any other business organizations or manufacturing process firms thus the tools used by most business organizations can be implemented by them too. It should be noted that several improvement tools and techniques such as change management, total quality management, downsizing, restructuring, benchmarking, design and systems development and process mapping have been adopted well by educational institutions and businesses in various industries to sustain growth and to achieve gains in service delivery (Mangenelli and Klein, 1994) as reported by Opeya (2011). Thus in pursuit of improved performance and quality, the above-mentioned tools have been used to overcome inefficiencies in the management of Education and especially Technical training in Kenya, but still there has been big problem with escalating cost, poor examination result, production of incompetent technician and laxity in service delivery. Fisher et.al (2001); has also recognized the importance of quality and efficiency in all aspects of the education and especially in technical training as a means of producing the human capital required to achieve the desired millennium development goals(MDG) and to sustain ever expanding and dynamic industry .

1.1.2 Service delivery

The customer value expectation is enormous and changing every day and this is a challenge to many organizations, the organizations must therefore keep on improving on their services and productive processes strategy to keep in tandem with the dynamics of the phenomenon to retain their customers. Service delivery is the attention, provision or manner in which a customer is handled during a transaction with an organization. The quality of service delivery is determined by the following variables; customer satisfaction, product quality, delivery speed and time-to-market speed, (Kolbarcha, 2008).

Therefore any service delivery strategy should focus on the following critical areas or dimensions; time, quality, flexibility, and cost. Time captures aspects related to speed, reliability of delivery, and rapid product and service development. Quality incorporates both the tangible and intangible characteristics related to product or service design and consistency; flexibility also captures elements that are seen by customers, such as the ability to customize products and services, as well as those that remain unseen, such as the capacity to accommodate significant changes in demand. Finally, the last dimension, cost, is not measured directly by customers but instead is translated by competitive forces into price. The implication of any operations strategy is to put in place processes that take care of all this attributes, (Slack & Chambers, 2007).

In pursuit for improved service delivery as a basis for competitive advantage many organization have adopted improved management strategies, so as to maintain customer loyalty since customer base is dwindling because many players are coming into the market to offer same services. It should be noted that many organization thus

have focused on "doing things right" more than it does on "doing the right thing". In essence, most service delivery approaches attempts to reduce variation and/or waste in processes, so that the desired outcome can be achieved with better utilization of resources (Harington, 1991).

1.1.3 Kisumu Polytechnic.

Kisumu Polytechnic is one of the currently existing national polytechnics in Kenya after Mombasa and Kenya Polytechnics have been converted to University colleges. The institution is located in Kisumu City. The Polytechnic has ten academic departments with a total student population of slightly over three thousand, (Kisumu Polytechnic Registry records, and 2012). Kisumu Polytechnic has undergone several transitions in its life as a technical training provider. The institution was started in 1967 hosted at Sigalagala Technical School. The institution was then transferred to its current site in 1971 being Kisumu Technical High School, in 1986 when technical High Schools were changed to Institutes of technologies, it became one of them. In 1997, the institution was up graded to become Kisumu Polytechnic and it is hoped that in the next two or three years the institution may become a university college. Based on this series of transitions, the institution has had a bit of its challenges in the management of service delivery because of the ever expanding staff, students' population and courses.

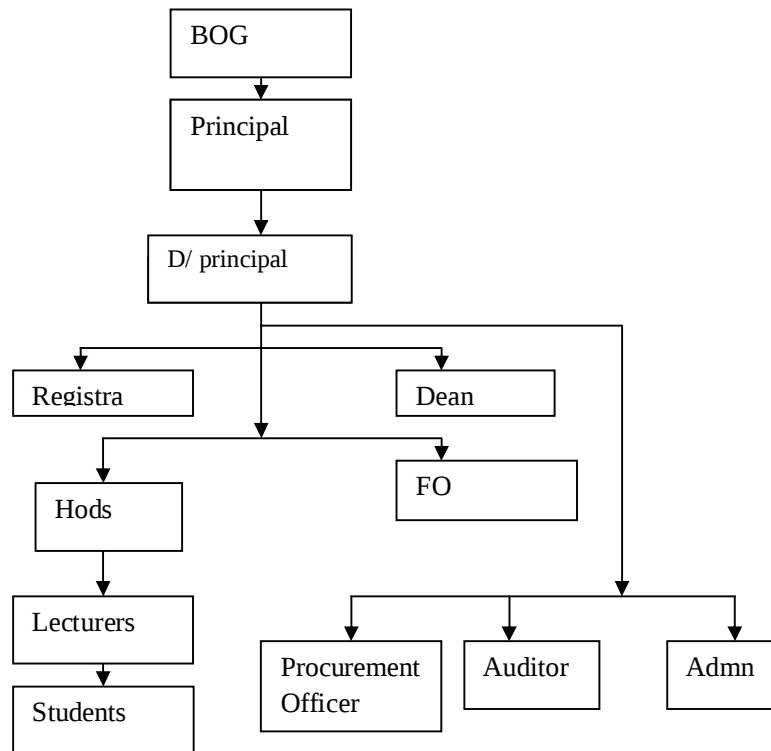
It should be noted that there is a fresh awareness among policy makers in many African countries and the international donor community of the critical role that TVET can play in national development. The increasing importance that African governments now attach to TVET is reflected in various Poverty Reduction Strategy Papers that governments have developed in collaboration with The World Bank. One

of the most important features of TVET is its orientation towards the world of work (competency) and the emphasis of the curriculum on the acquisition of employable skills. This means that TVET institutions need to respond to the different training needs of learners from different socio-economic and academic backgrounds, and prepare them for gainful employment and sustainable livelihoods (Tema, 2007).

In Kenya, in the last five years there has been a lot of restructuring of the technical training curriculum from knowledge based to competency based curriculum as one of the flagship strategy for vision 2030 (Delluc,2010). Performance contracting model of service delivery has also been introduced in tertiary institutions to address this improved quality training strategy (MOHEST, 2005). This has brought with it a lot of challenges to the general technical training set up in Kenya. Kisumu Polytechnic being a technical training institution has had its share of challenges in trying to implement the new competency based curriculum and service delivery approaches. It has been realized and experienced that the traditional operational setups cannot cope with the new reorganization in training and service delivery approaches thus a lot has been going on to upgrade the operative structure and physical infrastructure. Within these period technical institutions has also been encouraged to put service delivery structure that would conform to the ISO certification in an effort to meet accepted service delivery standards. This has led to the introduction of many management restructuring processes in most technical institutions to adhere to the conformance. In Kisumu Polytechnic either by design or default, to manage the paradigm shifts in training, service delivery, the ever evolving customer demand and industrial technology dynamics has tried to implement value analysis though in another name, cost reduction management strategy approach.

The institution over the last two years have been preparing to make itself ready for ISO certification as a way of improving service delivery, cost reduction strategy and put in place reliable and manageable strategic plan for lean operations to improve on its service delivery approaches, but this has not proved an easy task. New operational structures and procedures have been introduced to realign people thought, values, actions and behavior to shift from the conventional ways of doing things that have been cost burden, to a more lean cost effective system, since the traditional operation procedures has been costly, slow in service delivery speed and to a larger extent insensitive to customer relation. The examination result has also been very dismal especially in technical and applied sciences. Based on this, it was imperative that there was need for a complete paradigm shift so as to meet the standards for ISO certification and to offer improved services that stimulate vision 2030 flagship activities.

Figure 1.1 The Kisumu Polytechnic organogram



Source: Kisumu Polytechnic (2012)

1.2 Research Problem.

The immense literature on value analysis and its effects on management systems, have not captured anything on technical education in Kenya, but this sector equally have massive challenges in terms of high cost of training, poor quality training and production of incompetent technician as per the industrial requirement dynamics (Tema, 2008). Kisumu Polytechnic having experience of this scenario have tried to implement value analysis to address these underlying issues and a study on its impact will generally contribute to the other management processes already adopted in the management of technical training in Kenya.

Although it is the government of Kenya policy to ensure the delivery of quality technical training at low cost, it has remained elusive. Various interventions have been sought and implemented by the policy makers to improve on service delivery and performance. For example a series of management strategies has been designed and implemented, but still the cost of training has remained high, poor performance in national examination especially in engineering trades have continued to be experienced and quality of training has also not improved either. It should be noted that expansion of higher education and the desire for quality technical training in Kenya has led to the need for improved efficiency in administrative services. This has called for cost reduction and efficiency in the management processes, taking into account that government of Kenya (GOK) operation grant for institutions has also reduced drastically in recent times. This has forced institutions to cut cost on training but still hope to achieve the underlying objectives of training competent technicians that fit the dynamic global industrial requirement (Tema, 2008).

The statistics provided by the Directorate of Technical Education (DTE) reveals a steady increase in the cost of training in engineering trades with reverse performance in provision of services and reduced performance in national examinations. The technicians that are being produced by these institutions have not fitted well in the industry. This implies that though the cost of training has increased over the years the quality of training has not improved consequently, (GOK, 2005).

Virginia Commonwealth University Health System (VCUHS) adopted VA as a management system methodology. The results in the cited example were threefold: A better product (improved outcomes, enhanced patient dignity, and superior customer

service for VCUHS' patients and families), better compliance by staff (through education and involvement in the process of product choice), and better pricing for the health system (fiscal responsibility), (Russell, 2010).

Kisumu Polytechnic has been trying to align its processes based on; new technology dynamics, organizational culture shift, organizational human resource skill and capability requirement with an effort to provide quality training, improve result, improve operational coordination, improve on vendor and other stake holder relationship, retain its customers (students) and to provide services at minimal or reduced cost. As a result of this the institution has implemented Value analysis, though defined as process re-design and cost reduction strategy for improved serviced delivery and it was operationalised in the year 2010.

According to the principal before the design of the new service structure, the result in examination have been very dismal especially in the engineering trades, the customers and supplier cheques has been taking too long to be paid for. due unnecessary bureaucratic procedures, the overall cost of training was high, laxity in service delivery, transcript preparation has been taking too long and finally there has been a general outcry from the industry and stake holders that the graduates are not skilled enough. It is believed that with the operationalisation of value analysis, the service delivery structure has improved against the cost of operation as was intended. Due to these, there was need to survey the impact of value analysis implementation on service delivery at Kisumu Polytechnic.

This research project was to answer the following research question: What is the impact of value analysis implementation on service delivery at Kisumu Polytechnic?

1.3 Objectives of the study.

The objective of this study was to establish the impact of value analysis implementation on service delivery at Kisumu Polytechnic.

1.4 Value of the study.

The study will also help other scholars to enrich their knowledge on institutional management and even identify other areas of research for additional theory of knowledge. To Kisumu Polytechnic, the study will establish valuable operational best practice approaches that could be adopted by the management to improve on service delivery and result. Roy (2010), explains that value analysis help employees to better understand their jobs and orient them towards creative thinking, balance cost and performance, prevent over designing of service processes and finally it helps to understand and satisfy the organizations' customers. Thus effective use of value analysis and value engineering in an organization result to a cost reduction measure while at the same time ensuring improved service delivery. The findings of this study will benefit a number of stake holders. The principals of other institutions in Kenya may use the research findings and recommendations to prudently manage their institutional resources to achieve quality service and improved result at low cost.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction.

This chapter will discuss the literature on the impact of value analysis implementation on service delivery. The literature review will be conceptualized under the objective of the study and will mainly focus on; the impact of value analysis implementation on service delivery.

2.1 Value analysis.

Value analysis is defined as the elimination of those parts, activities or processes of an existing product or service that do not affect the quality, functioning or operation of a system, but still incur cost. Value engineering is a sub-set of the process and is defined as those processes, activities or features that are put in place so that the costs of product or service are reduced at the design stage (Roy, 2008).

The value of a product or service may be interpreted in different ways by different customers. Its common characteristic is a high level of performance, capability, emotional appeal or style relative to its cost. It can also be expressed as maximizing the function of a product relative to its cost (Crow, 2002).

According to Miles (1961), value analysis is an organized creative approach which has for its purpose the efficient identification of unnecessary cost that neither provides quality, nor use nor life, nor appearance nor customer features, as reported by (Roy, 2008)). He further noted that one of the causes for poor value in product or services, systems and procedures could be the lack of organized effort in devising such systems.

The purpose of value analysis is to try to reduce costs, and prevent any unnecessary cost, before producing a product or service. Simply put, it tries to eliminate any costs that do not contribute to the value of performance of the product or service. On the other hand Value analysis refers to the same process when it is concerned with cost reduction after the service have been introduced, (Slack & Chambers, 2007).

According to Holweg & Rich (2010), Value analysis as a process, is very robust and offers tangible, financial and people-based benefits. The process eliminates unnecessary weight, it removes unnecessary costs and importantly it allows people to understand products, processes and continuous improvement. By effectively implementing value analysis at Kisumu Polytechnic, it is believed that institution will make a leap forward in delivering its core services in an effort to realign its programs to operate at low cost while maintaining the quality of services or improving its overall performance.

Sharma (2010) asserts that the principal behind value analysis is that it is functionality oriented method for improving product value by relating various element of product worth to their corresponding element of cost. It is therefore important that the various structural procedures at Kisumu Polytechnic are examined, based on their element value, reorganizing their functionality so that services can be offered qualitatively but at lower cost, since operative government (GOK) grant has also been reduced over the years due cost sharing in training. In this context it should be understood that in value analysis, the aim is the reduction of cost but the quality and reliability need not be sacrificed.

Dadawet (1997) explains that many organizations are being challenged to reduce cost of operations, while at the same time improving their performance. Achieving this level of performance requires that organizations redesign their processes that they used to accomplish their work with, because many of the processes are rooted in the past, aimed at the demands of the earlier time before modern requirement. He further asserts that, this usually position an organization in a poor position to fulfill their mission and meet their strategic goals to serve current demands better and qualitatively at minimal cost, thus value analysis, becomes inevitable.

2.2 The impact of value analysis on service delivery.

Study done by Armstrong et al (1997), on Education management revealed that, Value analysis is currently being used as a change management strategy in a number of institutions of higher learning in many developed countries. It is reported that 70% of the colleges that have adopted and followed the right procedure in implementing value analysis management process design, have improved considerably on training result, reduced the overall operating cost and raised their customer satisfaction index by a considerable margin as reported by Opeya, (2011).

An empirical study by Kolbarcha (2008) indicates that VA helps organizations to gain higher customer satisfaction, product quality, delivery speed and time-to-market speed and it is the prayer of any organization to have strong competitive advantage amongst its peers. Also a study by Kuntz & Vera (2007), conducted in the German hospital sector indicates that Value analysis management had a positive impact on organizational efficiency, the hospitals improved quality conformance and speed of service delivery and this resulted in the retention of customer loyalty to the hospitals. It is reported that the hospitals' image improved based on the study survey on

satisfaction level done on customers and other stake holders from the time VA was implemented as a management system strategy.

Value analysis (VA) has been identified in some quarters as a means by which institutions can meet the pressures for change. (Ford, 1996) argue that VA could enable Educational institutions to develop organizational structures that enable innovative teaching and learning methods, whilst maintaining some element of the important student-teacher relationship.

During turbulent economic times and/or an arid budgetary climate, healthcare facilities in the USA typically turned to performance improvement (PI) programs to identify and eliminate, if not ratchet down, wasteful processes and spending to improve operations. As a result many health facilities adopted value analysis in their programs. It is reported that due to this each facility returned pricing that demonstrated a positive benefit to cost expense analysis, improvement in the clinical aspect of product selection and quality service delivery with lean budgetary allocation, (Below, 2009).

2.3 Challenges of value analysis implementation.

According to Clawson (1970), he found out that, effective Value analysis is likely to be achieved when it is in line with the organizational paradigm, which is cultural, social and political norms of organizational life. He realized that the problems begin when radical change; such as that associated with VA attempts to take people away from their 'core beliefs': 'the way we do things around here'. Thus he established that, value analysis is more likely to succeed if it entails minimal disruption to the paradigm.

Research done by (House & Watson, 1995) in Australian industries establishes that, value analysis tries to put systematic team approach to analyze a product, facility system or services so as to realign procedures that result to quality at minimal cost. They established that value analysis improves functioning of the processes and structure. Based on this premise, value analysis may be a very important management tool and must be seen to be working only if teams involved in the process are coordinated well. They realized that one of the challenges of value analysis is the organization of teams.

Slue (1995), also explains how the implementation of value analysis as a Total Quality Management (TQM) initiative in his department (at the University of Durham) succeeded, he reported that project succeeded because the philosophy underpinning the approach was in tune with the existing staff value system. It should be noted that this program was implemented in a single department, but institution wide approach like the case with Kisumu Polytechnic is likely to involve negotiating a wider range of mindsets. However, achieving conformance across an entire system depends on an ability to establish consensus quickly and the culture of the organization, (Grint, 1997).

Wixon (2010) on his research on some of the key manufacturing industries in Taiwan, Philippines and Korea on the aspect cost and value estimation realized that cost pose a big challenge to the implementation of value analysis and it is important that for any organization to gain competitive advantage, must address the overall cost cycle of service delivery. This is because by reducing the cost of a component or service the value increases.

2.4 Cost and value on service delivery.

Feuss (2010) asserts that informally, value can be defined as “what the customer gets for what the customer pays.” “What the customer gets” is a bundle of non-price characteristics that can be examined on the basis of both real and perceived quality measures. “What the customer pays” can include both initial costs and ongoing costs. Accordingly, the merits of any (so-called) “value proposition” can be analyzed along two dimensions, quality and price.

Holweg & Rich(2010), discovered that any attempt to improve the value of a product or service must consider two elements, the first, concerns the use of the product(the use value) and second source value comes from ownership (esteem value).They further realized that these two attributes on manufacture or service delivery come up with cost elements, that is the money used to purchase or put in place manufacturing or service provision processes and they included; the cost of the parts purchased ,labor cost, technology cost, quality cost and warranty cost. They asserts that the a detailed understanding of how cost accumulates through the process of design to the dispatch of the product or service pose a big challenge to value analysis and value engineering, as this process basically looks at cost and value of the product or service delivery. All intentions of value analysis are based on “same value at lower cost or improved value at the same cost”, (Wixon, 2010).

It can be seen, therefore, that several components make up ‘Value’. There is value arising from the function or end use of an item, and from its ability to perform a useful function reliably. There is the subjective aspect of value in terms of esteem or prestige value or artistic value; for example, the extra chrome and styling used to sell

automobiles or the neck tie or diamond ring you may wear. Again, there is the cost value made up of the material and labor costs, overheads and any other costs incurred in producing the item, (McGinnis, 2005)

Wixon, (2010) states that, “First, we have to acknowledge that, in the end, it’s all about cost.” In more and more industries, excellent quality, on time delivery and superior customer service are simply requirements to play. Companies should and will always try to use these factors to set themselves apart from lower cost competitors, but quality, delivery and service will only go so far in offsetting higher prices.

In this aspect cost and value estimation pose a big challenge to the implementation of value analysis and value engineering as established by Wixon (2010) on his research on some of the key manufacturing industries in Taiwan, Philippines and Korea.

Report by Holweg & Rich (2010) established that the key focus of value analysis approach should be the management of ‘functionality’ to yield value for the customer. They further asserts that, if a company or an organization seeks to reduce cost on a product or a service then they must determine the cost that are unnecessary or the items of the product that provide no functional value to the customer. In this aspect the value analysis process generally removes those costs that do not affect the function, quality, reliability, maintainability or benefit needed by the customer.

According to Roy (2008), the first task facing the value analyst is to operationally define value within the context of a particular product or process. In doing so it is important to acknowledge that value is subjective. Just as beauty lies in the eyes of the beholder, value is highly dependent upon perspective. Therefore, it is useful to recall

that all products and processes have multiple stake-holders. Indeed, in operationally defining value, the analyst might consider the perspectives of end consumers, individuals making the purchasing decision, suppliers, employees, managers, creditors, investors, regulators, and even the local community. While not all of these potential stakeholders will be concerned with every product or process, an initial consideration of which perspectives to consider is helpful in identifying a robust definition of value to drive the extended analysis. Frequently, the analyst will discover that the different perspectives will lead to conflicting definitions of value. While this complicates the task at hand, honing in on an acceptable definition of value often requires balancing competing demands.

Miles (1961) also found out that “All cost is for function.” To this end he advocated value analysis techniques that blend creativity. Lawrence D. Miles 1904-1985 who is regarded as the father of systematic problem solving techniques of value analysis and value engineering identified the primary function of a product at the lowest cost. He emphasized that, “unnecessary cost provides neither quality, nor appearance, nor customer features”, and when he was charged with developing substitute materials to take over the function of more costly standard materials at General Electric, he took on this role in 1947 and produced annual savings for the company in the region of \$200,000 per annum. It is also reported that service delivery quality also improved (Clawson, 1970).

2.5 The focus and stages in value analysis implementation.

The value definition phase begins with the gathering of information. The value analyst should have a clear idea of the scope of the review expected. Then each stakeholder’s perspective should be explored to determine what they consider to be

valuable. What are the utilities expected to be provided by the product or the objectives to be achieved by the process? Are there specific operational goals that should be considered? For example, is there time -line expectation on delivery of an orders, may be within twenty-four hours? At this initial stage, each stakeholders experience with the product or process should be broadly considered in order to facilitate the consideration of integrating complimentary elements in the product or process design. Information regarding stakeholder requirements may be revealed through direct observation, focus groups, interviews, surveys or other methods, (Williams, 2010).

Wixon (2010) explains that after gathering the information, the next step is to identify the as-is state of the product or process under review. In the case of a product design, this may be as simple as developing a bill of materials detailing the relevant components. In the case of a service delivery or production process, a flowchart is commonly used to graphically illustrate the tasks performed to achieve the current output. One of the primary purposes of creating an as-is representation is to ensure that existing problems are not duplicated in a new design. Information about component failures, warranty claims, and customer complaints can be quite valuable at this stage. A physical walk-through to observe the flow of a process or dismantling of a product may also provide useful information. Wixon (2010) further asserts that any deviations between the as-is documentation and what the analyst sees should be recorded. It is also useful to note any differences between how different employees perform the same task or any variation of the same component provided by different suppliers

Functional analysis is another procedure that is accomplished after identifying the state of the product or the process, the analysis is to determine the function of each element (each product component or each process task) identified in the as-is documentation. The convention is to use a verb-noun pair to describe the intended result or objective for each element-essentially what contribution the element makes. The verb answers the question "What is to be done?" The verb sets the action to be taken. The noun answers the question "What is it being done to?" The noun signifies what is acted upon. The activity of generating these pairs is more complicated than it appears to be. In practice, it is common to generate several verb-noun pairs that describe the objective or intended result of that element. For example, the function of a light bulb filament might be alternatively described as "generate light" or "convert energy." Each function is then classified as either primary or secondary. The primary functions are the basic reasons that the product or process exists. Secondary functions are those that serve to support or make possible the primary functions. These secondary functions are generally a consequence of the specific design chosen to achieve the product or process' primary function. Therefore, the design elements that provide only secondary functions are prime candidates for elimination or improvement. They also provide a framework for evaluating the elements that provide the associated prime function. The analyst can examine the element providing the primary function to determine whether it can be replaced or redesigned in such a way that the need for the secondary support function is eliminated (Williams, 2010).

Williams (2010) further states that, distinguishing primary and secondary functions is sometimes difficult in practice. To address this concern, Charles Bytheway developed the Function Analysis System Technique (FAST) at Univac in 1964. FAST builds on

the VA verb-noun pair analysis by linking those verb-noun pairs to describe complex systems. Bytheway's technique relied on a series of standardized fill-in-the-blank questions. By inserting the verb-noun functions identified through value analysis into the standardized questions, FAST seeks to identify the cause and consequence relationships among the various product or process elements. These relationships can then be graphed as a network diagram, with the verb-noun pairs representing the product or process elements as the nodes and the causal relationships represented as the arcs. FAST then identifies those elements that are essential to providing the product or process basic function as the critical path. Everything that falls outside this critical path is then considered as a prime candidate for elimination or improvement.

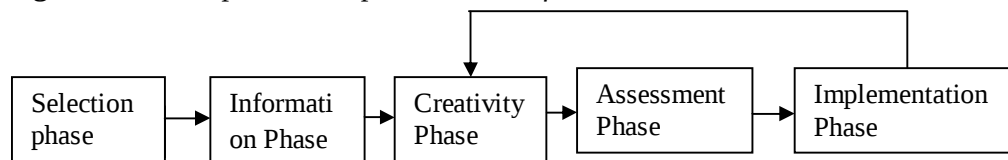
Heiser (2010) explains that, Bytheway's set of original questions for FAST includes the following: What subject or problem would you like to address? What are you really trying to do when you address the problem? What higher level function has caused the problem to come into being? Why is it necessary to solve the problem? , How is it actually being accomplished or how is it proposed to be accomplished? , Does the method selected to accomplish the task cause any supporting functions to come into being? , If you did not have to perform the function, would you still have to perform the other supporting functions? When you accomplish the function, do apparent dependent functions come into existence as a result of the current design? What or who actually should accomplish the task? (Williams,2010).

The following processes or steps summarizes value analysis implementation; identify and prioritize functions; identify the item to be analyzed and the customers for whom it is produced. List the basic functions (the things for which the customer is paying).

Note that there are usually very few basic functions. Identify the secondary functions by asking ‘How is this achieved?’ or ‘What other functions support the basic functions?’ Determine the relative importance of each function, preferably by asking a representative sample of customers (who will always surprise you with what they prefer). Analyze contributing functions; find the components of the item being analyzed that are used to provide the key functions. Again, the question ‘How’ can come in very useful here. Measure the cost of each component as accurately as possible, including all material and production costs. Finally seek improvements; eliminate or reduce the cost of components that add little value, especially high-cost components. Enhance the value added by components that contribute significantly to functions that are particularly important to customers (Roy 2008).

The flow diagram shows value analysis implementation sequence;

Figure 2.1 *Steps in the implementation of VA*



Source: (Society of American Value Engineers, 2010).

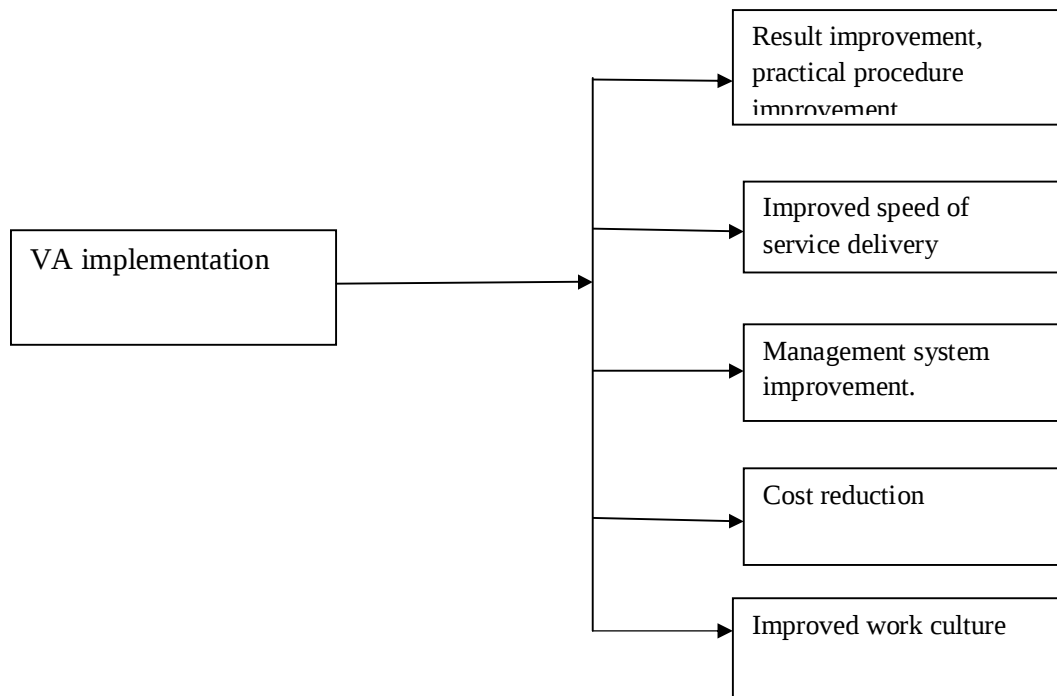
Helweg & Rich (2010), says that for the success of any value analysis implementation programme, it is wise to consider the following issues before commencing any project, as errors in the project plan may be difficult to correct, without causing frustration, once the VA project has started; cost associated with design, functionality, quality and customer preference. They further explain that one of the most important initial steps in developing the VA process is to create a formal team of individuals to conduct the exercise. These individuals must be drawn from different parts of the business that affect the costs associated with design, manufacturing, supply and other

relevant functions. In addition, the team must be focused on a product or product family or service in order to begin the exercise.

Helweg & Rich (2010), Sharma (2010), Roy (2008) and Dadawet (2007) stated that, the following were found to be the key to success in value analysis and value implementation in any organization; approval of senior management, enlisting a senior manager as a champion of the project to report back directly to the board of directors and also to act as the programme coordinator, establishment of the reporting procedures for the team and the timing of the project, presentation of the VA concept and objectives to the team of all the middle and senior managers in the business, Widespread communication of the VA project is important so that other employees, particularly managers (who may not be involved directly with the process) understand the need to support the project either directly by assigning staff or indirectly through the provision of data, provision of office space and co-locate the team members where practical and possible to do so, selection of the product for the study. Ideally the existing product, or family of products or services, need to be established and finally, establishing the objectives of the project and the key project review points.

Value analysis basically works on the basis of input, output model, it usually encourages the adoption of a logical sequence when developing, implementing and improving the effectiveness and efficiency of business process in order to improve organizational performance at low cost. As a concept it works across organizational processes and operations so as to improve service delivery. The aim of any process is to optimize performance of sub processes but still maintains the operation cost, (Sharma, 2010).

Figure 2.2 *Conceptual analysis.*



Source: Author (2012)

CHAPTER THREE: RESEARCH METHODOLOGY AND DESIGN

3.0 Introduction.

This chapter describes the research methodology that was employed in the study. It comprised of research design, target population, sample size, sampling techniques, data collection and data analysis.

3.1 Research design.

The study used descriptive survey design. Frankel and Wallen (2000) described descriptive survey as that method that involves seeking the opinion of a large group of people through questions about a particular issue. The design was appropriate in establishing the impact of value analysis on service delivery at Kisumu Polytechnic. Information was obtained from a sample rather than an entire population. Surveys was concerned with conditions or relationship that exist, opinions that are held, processes that are going on, effects that are evident or trends seen or observed as a result of VA implementation at Kisumu Polytechnic.

3.2 Population.

The study focused on the staff; the staff comprised top management, all the heads of department and the lecturers, the students and the suppliers at Kisumu Polytechnic, since they were the ones that had observed, seen or experienced the impact of value analysis implementation on service delivery in the institution. The population for this study comprised a population of 3410 as in table 3.1

3.3 Sample design.

This section describes sample size and sampling techniques.

3.3.1 Sample size.

A sample is a finite number of an item (or individual) taken from a population having identical characteristics with those of the population from which it was taken. According to Mugenda and Mugenda (2003) and Nyinya (2007), a large sample size reduces the sampling error.

According to Fraenkel and Wallen (2000), a simple random sample is one in which each member of the population has an equal and independent chance of being selected, while a proportional sample is where the sample size is a fraction of the whole sample size. Kisumu Polytechnic records indicated the total number of staff in its role as 260, students as 3120 and suppliers as 20 these totals to 3410. When the population is more than 10,000 individuals, 384 of them are recommended as the desired sample size (Mugenda & Mugenda, 1999). The accessible population in this study was 270 staff and 3120 students of Kisumu Polytechnic and 20 suppliers as in the table 3.1

Mugenda and Mugenda recommended the formula:

$$nf = \frac{384}{1+n/N}$$

According to the above formula:

nf = desired sample size when the population is less than 10,000,

n = desired sample when the population is more than 10,000,

N = estimate of the population size.

Using the above formula sample size is:

$$\frac{384}{1+384/3410} = 345$$

3.4.2 Sampling procedures.

Saturated sampling was used on the suppliers since they were few to be sampled i.e. there were only 20 suppliers. The staffs and the students were sampled in their proportion based on the total population, the staff population was 270, while the students' population was 3120, and the distribution was as shown in Table 3.1

Table 3.1 *Study Population and Sample Distribution*

S no.	Categories	Population	Sample Size	Percentage
1	Staff	270	45	12%
2	Suppliers	20	20	5.8%
3	Students	3120	280	81.2%
TOTAL		3410	345	100%

Source: Kisumu Polytechnic registry records (2012)

3.4 Data collection.

The research instruments that were used in this study were questionnaires and structured interviews. The questionnaire were based on close ended items that sought to collect data on the staffs, students and suppliers information and opinion on the impact of value analysis on service delivery at Kisumu Polytechnic. According to Mugenda and Mugenda, closed-ended questionnaire have an advantage that they are easy to analyze and administer and economical in terms of time and money. Structured interviews was only administered to the principal, the deputy principal and the registrar to capture their opinions on the impact of value analysis and on service delivery approaches at Kisumu Polytechnic.

The questionnaires were used to source data from staff, students and suppliers on information based on the impact of value analysis implementation on service delivery at Kisumu Polytechnic.

A pilot study was held one week to the commencement of the research project in order to establish whether the questionnaire would be understood by the respondents. In this pilot study the respondents comprised two staffs of sections and two students. Adjustments were then done appropriately in cases where questions could not be understood well based on elicited response. According to Mugenda (2003), once the questionnaire has been finalized, it should be tried out on the field. This is called pre-testing the questionnaire. The questionnaire should be pretested to a selected sample which is similar to the actual sample which the researcher plans to use in the study. Procedures used in pre-testing the questionnaire should be identical to these which will be used during the actual data collection. Mugenda (2003) asserts that the practice of pre-testing the questionnaire is very important because comments and suggestions made by respondents during the pre-testing should be seriously considered and incorporated. Such comments help to improve the questionnaire. Questions which were vague were revealed since the respondents interpreted them differently.

3.5 Data analysis and presentation.

Data collected using questionnaires were described and analyzed through descriptive statistics with the aid of Statistical Package for Social Sciences (SPSS), specifically means, averages, frequency counts and percentages were used to establish the impact of value analysis implementation on service delivery at Kisumu Polytechnic. Content analysis was used on quantitative , while the qualitative data from interview schedule were transcribed, organized thematically and reported.

CHAPTER FOUR: DATA FINDINGS, ANALYSIS AND PRESENTATION

4.0 Introduction.

This section presents the findings of the study. It is divided into three parts, namely, an overview of the data collected, data analysis and discussions of the findings.

The main objective of the study was to establish the Impact of Value analysis implementation on service delivery at Kisumu Polytechnic. Quantitative data collected from the respondents was analyzed using descriptive tools. The questioners were dropped and picked at a later date to allow the respondents to fill-in the questioners at their own appropriate time. The revelation of the identity of the respondents was optional. Once the respondents answered the questionnaire, data was coded using SPSS then analyzed.

4.1 Response rate.

The study targeted 345 respondents in collecting data with regard to Impact of Value analysis implementation on service delivery at Kisumu Polytechnic. From the study 4 respondents were used for the pilot study. 45 staffs were earmarked for the survey but only 35 filled and returned the questionnaire, 20 suppliers were given the questionnaire but 16 returned the filled- in questionnaire and finally 280 students were earmarked for the survey, but 272 student filled-in the questionnaire and returned making overall response rate of 93.6% overall as in the table 4.1.1.

The study managed to get this response rate due to proper organization of the field work and the efficiency of the field assistants after conducting a successful pilot survey. The study was not able to achieve a 100% return rate, since some students were absent and thus failed to submit their questionnaires and some suppliers could also not be reached after collecting the form but the time was also limited. This return

rate was still acceptable because it was above 60% return rate recommended by Amin (2005).

Table 4.1.: Questionnaire return rate

	Issued	Returned	Percentage
Students	280	272	97
Staff	45	35	71
Suppliers	20	16	80
Total	345	323	93.6

4.1.1 Personal information of the respondents.

This section presents findings in an effort to establish personal information about the respondents that were involved in this research. The findings of the study were discussed based on the following sub themes; for students it was based on; respondents department, gender, year of study. For the teachers the findings were discussed based on; department, position in the department, qualification, age, years of service at the Polytechnic and finally for the suppliers the findings were based only on; academic qualification, position in the company and gender.

4.1.2 Students responses.

The research sought to find out the students respondents per department.

Table 4.2: Students Response per department

Department	Freq	percentage
Electrical Department	33	12.1
Mechanical Engineering	46	16.9
Automotive Engineering	29	10.7
Applied Science Department	28	10.3
Computer Department	27	9.9
Building Engineering Dept	39	14.3
Institutional Management	19	7.0
Business Studies Department	26	9.6
Liberal Studies Department	25	9.2
Total	272	100.0

According to the findings, 12.1% were from Electrical Engineering ,16.9% from Mechanical, 10.7% from Automotive,10.3% from applied science, 9.9% from

Computer, 14.3% from Building Engineering, 7.0% from Institutional Management, 9.6% Business Studies and 9.2% from Liberal studies department. The department of was considered important, since the impact of value analysis must be reflective of the of the the quality of departmental operations. (Slue, 1995) explains how the implementation of value analysis as a Total Quality Management (TQM) initiative in his department (at the University of Durham) succeeded, and this translated to the institution overall service delivery improvement.

Table 4.3: *Students response per year of study*

Year of study	Frequency	Percent
Year 2	121	44.5
Year 3	151	55.5
Total	272	100.0

The study sought to know the year of study of respondents who participated in the study. This was considered important as it could establish the information on the exact year of the respondents who largely took part in the study, since year of study places a student in proper position observe service delivery trends based on the subsequent years and what exist then due to the implementation of value analysis. The findings established that, 55.5% were in their year two of study, while 44.5% were in year three of study.

Table 4.4: *Students respondents by age*

Age	Frequency	Percent
Below 25 years	187	68.8
25-30 years	84	30.9
Over 30 years	1	0.3
Total	272	100.0

The research sought to find out the age of the respondents. According to the findings, 68.8% of the respondents were aged below 25 years, 30.9%of the respondents were aged between25-30 years and 0.3% of the respondents were aged above 30 years. Age

was also considered important because it improves maturity in judgment on the part of the respondents.

Table 4.5: Students response by gender

Gender	Frequency	Percent
Male	181	66.5
Female	91	33.5
Total	272	100.0

The research sought to find out the gender of the respondents. According to the findings 66.5% were male students while 33.5% of the respondents were female students.

4.1.3 Suppliers responses

Table 4.6: Suppliers respondents by gender

Gender	Frequency	Percentage
Male	7	43.7
Female	9	56.3
Total	16	100

The research sought to find out the gender of suppliers respondents. According to the findings 43.7% were male while 56.3% of the respondents were female, showing that most of the company representatives on procurement were ladies.

Table 4.7: Suppliers respondents by Age

Age	Frequency(f)	Percentage (%)
Below 40 years	5	31.3
41-50 years	9	56.3
Over 50 years	2	12.4

The research sought to find out the age of suppliers respondents. According to the findings, 31.3% of the respondents were aged below 40 years, 56.3% of the respondents were aged between 41-50 years and 12.5% of the respondents were aged above 50 years.

Table 4.8: *Suppliers respondents by Educational qualification*

Qualification	Frequency	Percentage
Form Four	1	6.3
Diploma	10	62.5
Degree	5	31.5
Total	16	100

The research sought to find out the qualification of suppliers respondents . According to the findings, 6.3% form were four leavers, 62.5% diploma holders and 31.3% degree holders 3 Suppliers response.

4.1.4: Staff responses.

Table 4.9: *Respondents Position in the Departments*

Position in the Department	Frequency	Percent
Lecturers	34	97.2
Technician	1	2.8
Total	35	100.0

The research sought to find out the staffs' positions in the departments. According to the findings, 97.2% were lecturers and 2.8% were Technicians. This was considered important because it gave the feedback on the impact of VA implementation at departmental level and also it elicited the departmental' role in making VA service delivery approach to succeed.

Table 4.10: *Staff respondents by age*

Age	Frequency(f)	Percentage (%)
Below 40 years	8	22.9
41-50 years	18	51.4
Over 50 years	9	25.7
Total	35	100

The research sought to find out the age of the respondents. According to the findings, 22.9% of the respondents were aged below 40 years, 51.4% of the respondents were aged between 41-50 years and 25.7% of the respondents were aged above 50 years.

Table 4.11: Staff respondents by gender

Gender	Frequency(f)	Percentage(%)
Male	19	54.3
Female	16	45.7
Total	35	100

The research sought to find out the gender of staff respondents. According to the findings 66.5% were male students while 33.5% of the respondents.

Table 4.12: Staff respondents Duration of work at KP

Working duration at KP	Frequency (f)	Percentage (%)
0-4 years	3	8.6
5-10 years	14	40
Over 10 years	18	51.4

The research sought to find out the working duration of staff respondents at Kisumu Polytechnic. According to the findings 8.6% have worked for 0-4 years, 40% 5-10 years and 51.4% for over ten years. This was considered important since by being at the polytechnic for more than four years make some body to be able to judge the trends, and give dependable response on the questions asked.

Table 4.13: Staff respondents by educational qualification

Qualification	Frequency (f)	Percentage (%)
Form Four	3	8.6
Diploma	8	22.9
Degree	18	51.4
Post graduate	6	17.1

The research sought to find out the qualification of the staff respondents at Kisumu Polytechnic based on qualification. According to the findings, 8.6% form four leavers, 22.9% diploma holders, 51.4% degree holders and 17.1% had post graduate

qualifications of education. Level helps in analytical thinking and quality judgment of trends.

4.2 Response from the Principal, D/ principal and Registrar.

Faced to face interview was scheduled with the Principal, the deputy Principal and the Registrar at the Polytechnic on different dates. The research wanted to establish the following from them; the adoption level of value analysis as a management system approach at KP, the benefits achieved if any as a result of value analysis implementation, especially on service delivery and cost reduction strategy. The findings were as follows; all the top officers agreed that VA implementation process is being adopted well and they have not experienced any noticeable resistance from the staff, though a lot of sensitization was still required. On benefits realized the principal was skeptical since the system have not rooted itself well since most of supporting infrastructure has not been adequately put place, but she was sure that some element of cost reduction has been achieved, for example on insisting on page to page production of documents, sharing secretarial services by department and strict adherence to procurement procedures. The deputy principal who is in charge of academics underscored that there has been a lot of improvement on learning and teaching process as a result of value analysis implementation. The registrar also observed that administration of examination; registration process and fee payment process have improved a great deal as a result of value analysis implement.

On smooth implementation, the Principal suggested that organization wide involvement is the key to success of VA implementation in any institution or organization.

4.3. The impact of value analysis implementation on service delivery at KP.

The respondents were asked to rate the extent to which value analysis implementation has addressed and improved the following VA variables; tables 4.14, 4.15 and 4.16.

The respondents included the students, suppliers and staff.

4.3.1 Response from students

Table: 4.14: *Students rating of VA implementation on service delivery*

Response by Students VA Variable	Mean per variable	No extent at all		Little extent		Medium extent		Great extent		Very great extent		Total	
		f	%	F	%	f	%	f	%	f	%	Σ f	%
Rate the extent to which VA implementation has addressed and improved result in examination.	2.88	9	3.3	69	25.4	134	49.3	50	18.4	10	3.7	272	100
Rate the extent to which VA implementation has addressed and improved quality of teaching.	2.94	11	4	61	22.4	155	57.0	39	14.3	6	2.2	272	100
Rate the extent to which VA implementation have addressed and improved student welfare at KP	2.69	31	11.4	85	31.3	101	37.1	47	17.3	8	2.9	272	100
Rate the extent to which VA implementation have addressed and Improved student registration process efficiency at KP	2.80	16	5.9	96	35.3	99	36.4	49	18.0	12	4.4	272	100
Rate the extent to which VA implementation have addressed and improved syllabus coverage at KP	2.84	21	7.7	73	26.8	100	36.8	67	24.6	11	4.0	272	100
Rate the extent to which VA implementation have addressed and improved on practical training procedures at KP	2.90	36	13.2	86	31.6	92	33.8	45	16.5	13	4.6	272	100
Rate the extent to which VA implementation have addressed and improved practical training procedures	2.74	27	9.9	88	32.4	97	35.7	49	18.5	11	4	272	100
Rate the extent to which VA implementation have addressed and improved on skill and competency at KP	2.83	19	7.0	88	32.4	93	34.2	63	23.2	9	3.3	272	100
Rate the extent to which VA implementation have addressed and improved on internal examination result notification time	2.70	9	3.3	69	25.4	13.5	49.3	50	18.4	10	3.7	272	100
Overall mean	2.80	20	7.3	79	29	98.3	41.1	50.6	18.8	10	3.6	272	100

Key: No extent at all-1, Little extent-2, Medium extent-3, Great extent-4, &Very Great extent-5

The students were asked to rate the extent to which value analysis implementation has improved on the following VA variable; as in table 4.14. Result improvement, Quality of teaching, students' welfare, Registration process, conformance to quality standards, improved syllabus coverage, Delivery of materials for practical training, practical training procedures, skill and competency improvement and finally internal examination result notification time.

The following mean ratings were established for variables from the students respondents; 2.88 for Result improvement, Quality of teaching got a rating of 2.94, students welfare was rated at 2.69, Registration process was rated at 2.80, conformance to quality standards at 2.84, improved syllabus coverage at 2.90, Delivery of materials at 2.74, practical training procedures at 2.74, skill and competency improvement at 2.83 and finally internal examination result notification time at 2.70. From the students perspective the mean service delivery improvement index as a result of the implementation of value analysis at KP, was 2.8, missing moderate improvement index by 0.2 improvement index. The verdict of the students is that Value analysis implementation has only improved service delivery a little extent.

4.3.1 Response by suppliers.

Table 4.15: *Suppliers' rating of VA implementation service delivery*

Key: No extent at all-1, Little extent-2, Medium extent-3, Great extent-4 & Very great extent-5

VA Variable	Mean per variab le	No extent at all		Little extent		Medium extent		Great extent		Very great extent		Total	
		f	%	f	%	f	%	f	%	f	%	Σ f	%
Rate the extent to which VA have addressed and improved provision of information on tendering	3.44	1	6.3	3	18.8	6	37.5	5	31.3	1	6.3	16	100
Rate the extent to which VA have addressed and improved tender a ward procedures	2.69	0	0	2	12.5	7	43.8	5	31.3	2	12.5	16	100
Rate the extent to which VA have addressed and improved payment processing	2.69	2	12.5	3	18.8	3	18.8	6	37.5	2	12.5	16	100
Rate the extent to which VA have addressed and improved response to complaints	2.88	1	6.3	8	50.0	3	18.8	3	18.8	1	6.3	16	100
Rate the extent to which VA have addressed and improved conformance to QS	2.81	1	6.3	5	31.3	6	37.5	3	18.8	1	6.3	16	100
Rate the extent to which VA have addressed and improved speed of service delivery	3.06	3	18.8	6	37.5	3	18.8	3	18.8	1	6.3	16	100
Rate the extent to which VA have addressed and improved duration for acknowledging order delivery	3.25	0	0	8	50.0	4	25.0	3	18.8	1	6.3	16	100
Rate the extent to which VA have addressed and improved on vendor relationship	3.56	1	6.3	3	18.8	6	37.5	3	18.8	3	18.8	16	100
Rate the extent to which VA have addressed and improved on quality of service	3.31	1	6.3	2	12.5	5	31.3	3	18.8	5	31.3	16	100
Rate the extent to which VA have addressed and improved positive value culture of KP	3.13	0	0	4	25.0	7	43.8	1	6.3	4	25.0	16	100
Overall mean	3.08	1	6.3	4	27.5	5	31.3	4	21.9	2.1	5.6	16	100

During the survey the researcher explained to the suppliers that, in the last two years Kiumu Polytechnic has been implementing Value analysis as a means of service delivery improvement. The respondents were therefore asked to rate the extent to which value analysis implementation have addresses and improved the following VA variables as in fig 4.15

According to the findings. The extent to which VA have addressed and improved on the following variables is as enumerated; information on tendering is 3.44, tender award procedures is 2.69, payment processing duration is 2.69, response to complaints is 2.88, conformance to quality standards is 3.06, acknowledgement of order delivery was rated at 3.20, quality of service rated at 3.31, vendor relationship rated at 3.56 and finally positive value culture and image at 3.13. From the suppliers response the average mean service delivery improvement index as a result of the implementation of value analysis at KP, is 3.03 moderate improvement. The verdict of the suppliers is that value analysis implementation has only improved service delivery to a medium extent.

4.3.3 Response by Staff.

Table 4.16: *Staffs' rating of how VA implementation have positively addressed and improved the service delivery*

Key: No extent at all-1, Little extent-2, Medium extent-3, Great extent-4 & Very Great extent-5

VA Variable	Mean per variable	No extent at all		Little extent		Medium extent		Great extent		Very great extent		Total	
		f	%	f	%	f	%	f	%	f	%	Σ f	%
Rate the positive impact of VA implementation at KP on operational processes	2.4	7	20	12	34.3	12	34.3	3	8.6	1	2.9	35	100
Rate the positive impact of VA implementation at KP on Organizational structure	2.66	2	5.7	14	40	14	40	4	11.4	1	2.9	35	100
Rate the positive impact of VA implementation at KP on management systems	3.09	1	2.9	7	20	16	45.7	10	28	1	2.9	35	100
Rate the positive impact of VA implementation at KP on procurement process	3.11	2	5.7	6	17.1	13	37.1	14	40	0	0	35	100
Rate the positive impact of VA implementation at Kp on teaching and learning process	2.97	1	2.9	10	28.6	14	40	9	25.7	1	2.9	35	100
Rate the positive impact of VA implementation at KP on fees payment process	2.97	1	2.9	10	28.6	19	54.3	6	17.1	1	2.9	35	100
Rate the positive impact of VA implementation at KP on admission and registration process	2.71	2	5.7	5	14.3	15	42.9	13	37.1	0	0	35	100
Rate the positive impact of VA Implementation at KP on examination administration processes	3.11	0	0	4	11.4	19	54.3	12	34.3	0	0	35	100
Rate the positive impact of VA implementation at KP on recruitment and deployment processes	3.23	0	0	4	11.4	19	54.3	11	31.4	1	2.9	35	100
Rate the extent to which VA implementation have positively addressed attraction and retention of students at KP	3.03	1	2.9	7	20	18	51.4	8	22.9	1	2.9	35	100
Rate the extent to which VA implementation have positively addressed improvement on efficiency at Kp	2.86	1	2.9	12	34.3	13	37.1	9	25.7	0	0	35	100
Rate the extent to which VA implementation have positively addressed reduction of cost on service delivery at KP	2.97	3	8.6	7	20	15	42	8	22	2	5.7	35	100
Overall mean	2.97	2	5.5	9	28.8	17	45.4	9	28	1	3	35	100

The staff respondents were asked to rate the extent to which value analysis implementation have addresses and improved on the following VA variables in fig 4.17.

According to the findings. The extent to which VA have addressed and improved on the operational process was rated at 2.4, the extent to which VA have addressed and improved on organization structure was rated at 2.66, the extent to which VA have addressed and improved on the management system improvement was rated at 3.09, the extent to which VA have addressed and improved on procurement process was rated at 3.11, the extent to which VA have addressed and improved on teaching and learning process improvement was rated at 2.97, the extent to which VA have addressed and improved on fee payment process was rated at 2.97, the extent to which VA have addressed and improved on admission and registration process was rated at 2.71, the extent to which VA have addressed and improved on Examination administration process was rated at 3.11, the extent to which value analysis have addressed and improved on recruitment and deployment processes was rated at 3.23, the extent to which value analysis have addressed and improved on the attraction and retention of student was rated at 3.03, the extent to which value analysis have addressed and improved on efficiency was rated at 2.86, the extent to which value analysis have addressed and improved on result improvement was rated at 3.14 and finally the extent to which value analysis have addressed and improved cost reduction was rated at 2.97. The average mean rating by staff on service delivery as a result of value analysis is 2.93. According to the rating by staff on the extent to which VA have addressed and improved on service delivery is to a little extent it has missed medium extent by 0.07 improvement index.

4.4 VA implementation awareness at Kisumu Polytechnic.

Table 4.17: Staff awareness response on the implementation of VA at Kisumu Polytechnic.

Question	Yes		No		Total Σf
	F	%	f	%	
Do you agree with the fact that VA is being implemented at KP?	28	80	7	20	35
If yes, are there teams constituted to oversee the process?	26	74.3	9	25.7	35
Was there any structured blue print or procedure guiding implementation process?	24	68.6	11	31.4	35
Is there any cost reduction evident on service delivery as a result of value analysis implementation at KP?	20	57.1	15	42.9	35
In your opinion do you think that as a result of VA implementation at KP, overall service delivery status has improved?	20	57.1	15	42.9	35

The research intended to establish whether the general staff were aware of the fact that Value analysis was being implemented at Kisumu Polytechnic. The findings were as follows, table 4.17 ; those who agree that that VA is being implemented were 80%, those who disagree were 20%, those who agreed that teams were constituted to oversee the process were 74.3% while those who disagreed were 25.7%, those who agreed that there was evident of cost reduction were 57.1% while those who disagreed were 42.9% and finally those who agreed that the overall service delivery status have improved as are a result of VA implementation were also 57.1% while those who disagreed were 42.1%. This shows that the staffs are aware of the existence of value analysis implementation as sought to be established by the findings

4.5 Summary of respondents rating.

Table 4.18: Overall variable rating of the impact of VA implementation at KP by Students, Suppliers and Staff.

Respondents	Average $\bar{x}$	Average $\sigma \bar{x} n$	Average $\sigma \bar{x} n - 1$
Students	2.81	0.102	0.1053
Staff	2.97	0.301	0.303
Suppliers	3.08	0.294	0.309
Mean VA service delivery rating.	2.95	0.234	0.2391

From the table 4.18 the average improvement index on service delivery is given with a mean of 2.95 which is approximately 3 (Medium extent improvement) against maximum improvement index of 5(Greatest extent improvement). This shows that as a result of value analysis implementation, the service delivery status have improved but not significantly as may be expected since it is just to a medium extent.

4.4.1 Single factor analysis of variance (ANOVA) for respondents.

Table 4.19: Single factor analysis of variance.

Students $\bar{x}_1$	Suppliers $\bar{x}_2$	Staff $\bar{x}_3$
2.88	3.44	2.4
2.94	2.69	2.66
2.62	2.69	3.59
2.80	2.88	3.11
2.84	2.81	2.97
2.90	3.06	2.97
2.74	3.25	2.71
2.83	3.56	3.11
2.70	3.31	3.23
	3.13	3.03
		2.86
$\Sigma \bar{x}_1 = 25.27$	$\Sigma \bar{x}_2 = 30.3$	$\Sigma \bar{x}_3 = 29.7$
$\bar{y}_1 = 2.81$	$\bar{y}_2 = 3.08$	$\bar{y}_3 = 2.97$

4.4.2 The variation between the groups

Voice & Wilkin (2007), explains that the Sum of squares between groups is given by:

$$SSE = (n_1 - 1)s_1^2 + (n_2 - 1)s_1^2 + (n_3 - 1)s_1^2$$

$$MSE = \frac{SSE}{N-K}$$

$$\text{Also} \quad MSG = \frac{SSG}{n-1}$$

$$\text{Therefore,} \quad F = \frac{MSG}{MSE}$$

Where, n = number of elements in a group

s^2 = Variance in each group

K = Total number of groups

MSG = Measuring variation between groups.

MSE = Measuring variation within groups

$$\begin{aligned} y &= \frac{\bar{y}_1 + \bar{y}_2 + \bar{y}_3}{3} \\ &= \frac{8.86}{3} = 2.95 \end{aligned}$$

$$SSG = 3(2.81 - 2.95)^2 + 3(3.08 - 2.95)^2 + 3(2.97 - 2.95)^2$$

$$= 1.3308$$

$$MSG = \frac{SSG}{n-1} = \frac{0.9320}{2}$$

$$= 0.6654$$

Measuring variation within groups of squares errors

$$SSE = (n_1 - 1)s_1^2 + (n_2 - 1)s_1^2 + (n_3 - 1)s_1^2$$

$$= (9 - 1)0.077 + (10 - 1)1.066 + (11 - 1)0.9955$$

$$= 20.165$$

$$MSE = \frac{SSE}{N-K} = \frac{20.165}{27} = 0.7468$$

$$F = \frac{MSG}{MSE} = \frac{.6654}{0.7468} = \mathbf{0.8910}$$

From the table, Fdf =2 at 5% is 19.3 and calculated or observed value of F is 0.8910

4.4.3 Interpreting the F-statistics

Voice & Wilkin (2007), explains that once the F-statistic has been found, it can be compared with a critical F value from a F table, This F table is calculated for a value of alpha = 0.05, indicating a 95% confidence level, in this case the F value is 0.0741 less than 2.92. This means that if $F_{observed}$ is smaller than $F_{critical}$ from the table, then we can accept the null hypothesis and say with 95% confidence that the variance between groups is due to random chance, not due to the influence of a tested factor. This shows that the verdict on the impact of value analysis implementation on service delivery at Kisumu Polytechnic by the various respondents was by random chance and any other survey would elicit the same responses if nothing is done, the average service delivery improvement index is to a medium extent.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction.

This chapter provides the summary of the findings from chapter four, and it also gives the conclusions and recommendations of the study based on the objective of the study. The objectives of this study was to establish the impact of Value analysis implementation on service delivery at Kisumu Polytechnic

5.1 Summary of the findings.

In this section, summary of the findings have been presented based on the following; respondents profile, Value analysis implementation awareness at Kisumu polytechnic and the impact of value analysis on service delivery based on; Operational processes improvement, cost reduction, result improvement, practical training procedure improvement, speed of service delivery, procurement process, supplier payment process, management system improvement, administration and registration procedure improvement and finally value and work culture improvement.

5.2.1 Value analysis implementation awareness at KP.

The research sought to establish whether the general staff were aware of the fact that Value analysis was being implemented at Kisumu Polytechnic. The findings established that those who agree that that VA is being implemented were 80% while those who disagree were 20%. The research intended to establish whether there were teams constituted to oversee value analysis process, according to the findings those who agreed that teams were constituted to oversee the process were 74.3% while those who disagreed were 25.7%. Since value analysis is Value analysis is a management process and is defined as those processes, activities or features that are put in place so that the costs of product or service are reduced (Roy, 2008), the

research sought to find out evidence of cost reduction, the findings was, those who agreed that there was evident of cost reduction were 57.1% while those who disagreed were 42.9%. Kolbarcha (2008) indicates that VA helps organizations to gain higher customer satisfaction, product quality, delivery speed and time-to-market speed, the research sought to establish the improvement status of service delivery from the staff as a result of VA implementation, according to the findings 57.9% agreed that there was improvement, while 42.1% disagreed. This shows that the staffs are aware of the existence of value analysis implementation and that there visible signs of improvement on service delivery status.

5.2.2 The impact of value analysis implementation on service delivery at KP.

A according to the findings. The following mean ratings were established for the following variables from the students respondents; 2.88 for Result improvement, Quality of teaching got a rating of 2.94, students welfare was rated at 2.69, Registration process was rated at 2.80, conformance to quality standards at 2.84, improved syllabus coverage at 2.90, Delivery of materials at 2.74, practical training procedures at 2.74, skill and competency improvement at 2.83 and finally internal examination result notification time at 2.70. From the students perspective the mean service delivery improvement index as a result of the implementation of value analysis at KP, was 2.8, missing moderate improvement index by 0.2 improvement index. The verdict of the students is that value analysis implementation has only improved service delivery a little extent.

The suppliers of Kisumu polytechnic rated the improvement index on service variables as stated , the extent to which VA have addressed and improved on the provision of information on tendering is 3.44, tender award procedures is 2.69,

payment processing duration is 2.69, response to complaints is 2.88, conformance to quality standards is 3.06, acknowledgement of order delivery was rated at 3.20, quality of service rated at 3.31, vendor relationship rated at 3.56 and finally positive value culture and image at 3.13. From the suppliers response the average mean service delivery improvement index as a result of the implementation of value analysis at KP, is 3.03 moderate improvement. The suppliers think that though value analysis have implemented , the service delivery status have moderately improved, giving the management to seek areas that still require a lot of effort to reach the desired threshold.

According to the staff of Kisumu polytechnic, the extent to which VA have addressed and improved on the following variables are enumerated; the staff were asked to rate the extent to which value analysis has improved operational processes; operation is the transformation processes within an organization and involves all those activities that facilitate service delivery or production process to be accomplished ((Slack & Chambers, 2007), operational process was rated at 2.4, organization structure is another that acts as a prime mover to any service delivery in organization, it involved coordinating the working faculties to work towards a common objective, the staff rated this variable at 2.66, management system improvement involve technology adoption and basically computerizing processes, MS was rated at 3.09, procurement process rate at 3.11, teaching and learning process improvement rated at 2.97, fee payment process improvement rated at 2.97, admission and registration process rated at 2.71, Examination administration process rated at 3.11, recruitment and deployment processes rated at 3.23, attraction and retention of student rated at 3.03, improvement on efficiency rated at 2.86, result improvement rated at 3.14 and finally cost reduction

rated at 2.97. The average mean rating by staff on service delivery as a result of value analysis is 2.93. According to the rating by staff on the extent to which VA have addressed and improved on service delivery is to a little extent it has missed medium extent by 0.07 improvement index. This shows that the staff are not yet satisfied with service delivery status though, they are aware that value analysis has been implemented at Kisumu Polytechnic.

From the findings, the average improvement index on service delivery is given by the three categories of respondents, gives a mean of 2.92 which is approximately 3 (Medium extent improvement) against maximum improvement index of 5 (Greatest extent improvement). This shows that as a result of value analysis implementation, the service delivery status have improved but not significantly as may be expected since it is just to a medium extent.

The interview with the Principal revealed that, She is still skeptical about improvement on the overall service delivery status. She felt it was still too early to assess the impact of VA, because it is when support procedures are being put in place, but her hope is that when all the structures are in place and matured, a great improvement will be realized in terms of reduction in cost and positive service delivery status, this was echoed by both the registrar and the deputy Principal.

5.3 Conclusions.

The main purpose of this study was to establish the impact of Value analysis implementation on service delivery at Kisumu Polytechnic. In terms of the stated research objective, the following findings emerged from the study. The staffs of Kisumu Polytechnic are aware of the existence of value analysis implementation and

that VA has improved the general status of service delivery to a medium extent. From the findings, the average improvement index on service delivery is given with a mean of 2.95 which is approximately 3 (Medium extent improvement) against maximum improvement index of 5(Greatest extent improvement). This shows that as a result of value analysis implementation, the service delivery status have improved but not significantly as may be expected.

5.4 Recommendations.

The study recommends that good organizational culture, team work and quality standards (QS) adherence need to be emphasized. For VA to effectively be implemented, organizations need to accommodate a balance between functional expertise and process involvement. The Principal needed to actively deal with the issue of VA. Integral part of VA process need to be emphasized among the heads of departments (HODs). The necessary resources and facilities such as human resources finance and information systems need to be positive about the prospects of value analysis and capable of innovative response to the demands that may be required by value analysis process at Kisumu Polytechnic. The study further recommends that; regular communication must be established between executives and those who are in charge of VA process for effective implementation of the process. Technology to be improved and that roadblock to collaboration between departments need to be addressed. Staff training and competence be encouraged and offered to the staff and finally practical training procedures for the students need to be improved and enhance accordingly. The study recommends that for the success of VA implementation, standard VA implementation schedule or procedures need to be followed to the latter.

5.4 Areas for Future Studies.

The study recommends that further research should be conducted on the Challenges of Value analysis implementation on service delivery at Kisumu Polytechnic. The study also recommends that further research on the impact of Value analysis Implementation at KP should be done in other institutions and universities to find out if the same results will be obtained. The same study should also be carried out in the other industries.

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APENDICES

APPENDIX I: QUESTIONNAIRE

This Questionnaire is devised to determine the impact of value analysis and value engineering on service delivery at Kisumu Polytechnic. This questionnaire is strictly confidential and therefore the information you provide in your responses will strictly be used for this research project and will not be disclosed to anybody whatsoever.

RESPONDENTS' PERSONAL INFORMATION.

SECTION A

Name (optional).....

Department.....Position in the department.....

What is your gender? Male ☐ Female ☐

What is your age: Below 40 ☐ 41- 50 ☐ Over 50 ☐

How long have you been working at Kisumu Polytechnic?

☐ 0-4 years ☐ 5-10 years ☐ Over 10 years

What is your highest academic qualification?

☐ Form four ☐ Diploma ☐ Degree ☐ Post graduate

☐ Any other.....

SECTION B

Value analysis is the systematic application of recognized techniques by multi-disciplined team(s) that identifies the function of a product or service; establishes a worth for that function; generates alternatives through the use of creative thinking; and provides the needed functions, reliably, at the lowest overall cost.

STAFF QUESTIONNAIRE

Do you agree with the fact that value analysis is being implemented at Kisumu Polytechnic based on service delivery standard restructuring and cost reduction strategy adopted? YES [] NO []

If YES, are there teams constituted to oversee the process? YES [] NO []

Was there any structured blue print or procedure guiding the implementation of the process? YES [] NO []

Is there any cost reduction evident on service delivery as a result of value analysis implementation at Kisumu Polytechnic? YES [] NO []

In your opinion do you think that as a result of Value analysis implementation at Kisumu Polytechnic, the overall service delivery status have improved?

YES [] NO []

Rate the positive impact of value analysis implementation at Kisumu Polytechnic on the following.

You have five options to choose from as follows:

Very great extent	VGE (5)
Great extent	GE (4)
Moderate extent	ME (3)
Little extent	LE (2)
No extent at all	NE (1)

Statement	1	2	3	4	5
Organizational structure					
Management systems					
Procurement process					
Teaching and learning process					
Fees payment process					
Admission and registration process					
Examination administration processes					
Recruitment and deployment processes					
Attraction and retention of students at KP					
Improvement on efficiency at Kp					
Others [please specify.....]					

STUDENTS QUESTIONNAIRE:

Rate the extent to which value analysis have addressed and improved on the following service delivery objectives at Kisumu Polytechnic?

You have five options to choose from as follows:

Very great extent	VGE (5)
Great extent	GE (4)
Moderate extent	ME (3)
Little extent	LE (2)
No extent at all	NE (1)

Statement	1	2	3	4	5
Result improvement					
Quality of teaching					
Student welfare					
Student registration process efficiency					
Improved conformance to quality standards					
Student welfare					
Material for training delivery time.					
Improved practical training procedures					
Improvement of skill and competency					
Result notification time for internal examination					
Others [please specify.....]					

SUPPLIERS' QUESTIONNAIRE

Rate the extent to which value analysis have addressed and improved on the following service delivery at Kisumu Polytechnic?

You have five options to choose from as follows:

Very great extent VGE (5)

Great extent GE (4)

Moderate extent ME (3)

Little extent LE (2)

No extent at all NE (1)

Statement	1	2	3	4	5
Provision of information for tendering					
Tender a ward procedures					
Payment processing					
Response to complaints if any by suppliers					
Improved conformance to quality standards					
Improved speed of service delivery					
Acknowledgement for supply of goods or services duration					
General vendor relationship with the institution					
Overall rating of quality of service when dealing with KP					
Positive Values/culture shift of the organization					
Others [please specify.....]					

APPENDIX II:

INTERVIEW SCHEDULE FOR THE PRINCIPAL, THE DEPUTY PRINCIPAL AND THE REGISTRAR OF KISUMU POLYTECHNIC

The purpose of the study is to establish the impact of value analysis and on service delivery at Kisumu Polytechnic. Openness, objectivity and accuracy in answering the questions will be greatly appreciated. All your responses and information obtained will be treated with utmost confidentiality and only used for analytical purposes.

1 . a) In your opinion, do you think that value analysis and value engineering as management system approach has been adopted well at Kisumu Polytechnic ?

If YES, what are some of the benefits that have been achieved as a result of value analysis implementation?

1. As a result of the implementation, in your opinion do you think that there has been improvement on the quality of service delivery?
2. Do you think that as a result of the implementation of value analysis, there has been cost reduction in training?
3. Kindly give any information that in your opinion may assist in the smooth implementation of value analysis and value engineering as cost reduction or performance improvement strategy

APPENDIX III: WORK PLAN

	MONTHS OF THE YEAR 2012						
Activities	April	May	June	July	August	September	October
Topic identification	√	√					
Literature review	√	√	√				
Development of proposal	√	√	√	√			
Approval of proposal					√	√	
Data collection						√	√
Data analysis						√	√
Report writing							√

APPENDIX IV: BUDGET

STUDY STAGE	MATERIALS/ACTIVITY	COST (KSHS)
Proposal development	Stationary	8000
	Typing and printing	3000
	Binding	5000
Data collection	Stationary	1000
	Photocopying	500
Data analysis and report writing	Editing of report	2000
	Printing of report	2000
	Binding report 8pcs	8000
	Contingencies	3000
	Total	30,500