

**EFFECT OF CHANGE MANAGEMENT
CAPACITY ON THE DELIVERY OF QUALITY
EDUCATION IN PUBLIC TECHNICAL AND
VOCATIONAL INSTITUTIONS IN KENYA**

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**Effect of change management capacity on the delivery of quality education in
public technical and vocational institutions in Kenya**

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DECLARATION

This thesis is my original work and has not been presented for award of a degree in any other university.

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This thesis has been submitted for examination with our approval as University Supervisors.

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DEDICATION

I dedicate this thesis to my late mother Pamela Aoko

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LIST OF ABBREVIATIONS

FPE	Free Primary Education
GOK	Government of Kenya
IMF	International Monetary Fund
IT	Institutes of Technology
KCPE	Kenya Certificate of Primary Education
KCSE	Kenya Certificate of Secondary Education
KICD	Kenya Institute of Curriculum Development
KIE	Kenya Institute of Education
KNCHR	Kenya National Commission on Human Rights
KNEC	Kenya National Examination Council
KNEC	Kenya National Examination Council
M&E	Monitoring and Evaluation
MDG	Millennium Development Goals
MOE	Ministry of Education
MoEST	Ministry of Education, Science and Technology
MoHEST	Ministry of Higher Education Science and Technology
MoLHRD	Ministry of Labour and Human Resources Development
SMASE	Strengthening of Science and Mathematics in Education
STI	Science Technology Innovation
TIVET	Technical, Industrial, Vocational and Entrepreneurship Training
TSC	Teachers Service Commission
TTI	Technical Training Institutes
UNESCO	United Nations Educational, Scientific and Cultural Organization
UPE	Universal Primary Education
USA	United States of America
USAID	United States Agency for International Development

DEFINITION OF TERMS

- Change management:** refers to an approach to transitioning individuals, teams, and organizations to a desired future state. It refers to the systematic approach to dealing with change, both from the perspective of an organization and on the individual level (Burnes, 2004).
- Change management capacity:** refers to the ability of the organization to have the right personnel to manage the reforms initiated in the institutions to achieve the desired objectives. This is in terms of competence, skills and approach of initiating the new ideas and ensuring their successful continuous implementation. It refers to the systematic approach to dealing with change, both from the perspective of an organization and on the individual level (Burnes, 2004).
- Organizational structure:** refers to the typically hierarchical arrangement of lines of authority, communications, rights and duties of an organization. It determines how the roles, power and responsibilities are assigned, controlled, and coordinated, and how information flows between the different levels of management (Hrebiniak, 2006).
- Quality education:** refers to a system of learning that produces well-educated individuals who can handle matters of concern within their area of study proficiently. The system should impose desirable qualities such as moral ethics in the individuals (Liston, 1999).
- Strategy:** refers to the direction and scope of an organisation over the long-term which achieves advantage for the organisation through its configuration of resources within a challenging environment, to meet the needs of markets

and to fulfil stakeholder expectations (Robbin and DeCenzo, 2005).

Student turnover:

refers to the movement of students into, through and out of college such as that which happens every college semester.

Wastage:

In education, wastage occurs in two forms either dropping out of school or repeating a class once or a number of times. When a student leaves the school before completing the course it is termed as dropout whereas failing once or more before gaining promotion to the next higher class falls under the category of repetition of classes. Wastage is related to the objectives of education (Liston, 1999).

ABSTRACT

The study sought to investigate the effect of change management capacity on the delivery of quality education in public technical and vocational education institutions in Kenya. It was guided by four specific objectives, research questions and hypotheses. The study was guided by the by three change management theories: Kurt Lewin's three-step theory, Kotter's eight-step and ADKAR models. It adopted Survey research design while target population was 689 employees in the Ministry of Educations' Directorate of Technical Education, National Polytechnics and Technical Institutions. Simple random, stratified and purposive sampling techniques were used to select 11 managers in Directorate of Technical Education, 15 administrators from National Polytechnics and other technical institutions, and 220 instructors from technical institutions. Data was collected using structured questionnaires and interview schedules. Reliability coefficient of 0.7 was established after pre-testing the instruments. Data was analyzed both quantitatively and qualitatively using the statistical package for social science (SPSS) version 17.0. Descriptive and inferential statistics and content analyses were used for specific data. The analyses were further amplified by subjecting selected results to graphical and tabular techniques. The analyzed data was presented in the form of tables, tabular matrices, and pie and bar charts. From the study, organizational structure influenced change process and subsequently the quality of technical education in Kenya as confirmed by most institution managers. Consultative and flexible Leadership styles influenced the quality of technical education through supervision and provision of direction as revealed by a majority of the instructors. According most institution managers, the level of competence of policy makers influenced the quality of education in technical colleges to a very large extent. Most institution managers agreed that organizations trained its employees on the desired change. Most of the institutional managers indicated that the curriculum met the needs of the industry only to a small extent. Further, some institution managers were neutral that the graduates fit the job market. The study recommended that managements of the technical educational institutions adopt consultative and collaborative leadership styles to suit reform processes. It emerged that college managements should lead the way in reforms' initiation as the government initiate policy and skills imparting through workshops and short courses. The government should establish policy on managers' skills upgrading and develop relevant curriculum. Future studies should investigate challenges facing the implementation of reforms in public vocational educational institutions in Kenya

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Change has been an integral part of human development with knowledge and education at its core (Kennedy & Lee, 2008). Knowledge and curiosity have brought enormous change in the human situation and its physical and socio-economic environment. This is due to the increased values placed on education as a vital tool for development. According to Ojiambo (2009), education development would lead to accelerated economic growth, more wealth and income distribution, greater quality of opportunity, availability of skilled manpower, decline in population growth, long life, better health outcomes, low crimes rate ,national unity and political stability.

Since education systems the world over are responsible for knowledge generation and transfer in society, the struggle to regulate the cyclic and complex association between change and knowledge has been underway at different levels of the reforms with varying degrees of implementation success (Haris, 2009; Levin, 2009). The motives behind these regulations have always been pristine, especially in the presence of political expediency (Gunter, 2008; Hargeaves, 2005; Harris, 2011; Levin and Fullan, 2008; Levin, 2010), market ruthlessness (Cheng, 2010; Hargreaves and Shirley, 2009; Hill, 2009) and even religious predispositions in some education systems (Kennedy & Lee, 2008).

According to a study by Margherita (2006), educational reforms in fourteen European countries (viz Denmark, Finland, France, Germany, Italy, Ireland, Netherlands, Portugal, Sweden, United Kingdom) were intended to make more youth attend colleges. The study found that these policy changes resulted in one additional year in school in some countries while in other it resulted in up to three additional years of schooling. In the United States of America (U.S.A), the reforms were aimed at producing graduates who will be competitive in the global market arena (Berube, 2004).

In Africa educational reforms were done for various reasons and with mixed levels of success. In South Africa the post-apartheid educational reforms were geared towards achieving equality because the government inherited one of the most unequal societies in the world (Bhikha, 2002). The reforms focused on three interventions namely: education finance reform, curriculum reform and teacher rationalization process (Bhikha, 2002). According to Jansen and Taylor (2003), the reforms achieved only little success due to what he terms as lack of wide systematic thinking, uncoordinated nature of the initiatives and the conflicting logic of the different initiatives. In Benin educational reforms were not implemented due to lack of budgetary support after United States Agency for International Development (USAID) withdrew its support and the national government was unable to finance the reforms alone (Bhikha, 2002). In Uganda, national politics often superseded educational reform goals and the local communities frequently received mixed signals regarding their involvement in their children's education (Moulton et al., 2002).

Educational change in Kenya dates back to the early years of post independent Kenya. After independence, the government appointed a committee of eminent Kenyans chaired by Prof. Ominde in 1964 and Gachukia, (2003) to collect views from the people and reform the education sector to be more responsive to the needs of independent Kenya. They recommended a system that will foster national unity; create human resources and development (Sessional Paper no. 1 2005).

The Mackay report of 1984 recommended the establishment of a second public university and retained the eight national goals of education and training articulated by Ominde report. These are; foster nationalism, patriotism and promote national unity; promote the socio-economic, technological and industrial skills for the country's development; promote individual development and self-fulfillment; promote sound moral and religious values; promote social equality and responsibility; promote respect for and development of Kenya's rich and varied cultures; promote international consciousness and foster positive attitudes towards other nations; and to promote positive attitudes towards good health and environmental protection.

The Koech report (2000) recommended integration of total quality in education and training. The recommendations of this report were not fully implemented due lack of adequate resources. The government managed only to rationalize the curriculum in line with national needs and international markets. A major policy intervention was the introduction of free primary education in January 2003 by the government. Thereafter a national education conference was organised in November 2003 and their recommendations led to the development of Sessional Paper number 1 of 2005 which forms the current education, training and research policy. The paper introduced some reforms including free day secondary education, (Kamunge report, 2008). Following the launch of Kenya Vision 2030 in 2007 and the promulgation of the new constitution in August 2010, it has become necessary to re-align the education sector to comply with the new developments.

The role of technical educational institutions in Kenya is furnishing skills required to improve productivity, raise income levels and improve access to employment opportunities (Nyerere, 2009). However, the levels of unemployment in the country have been souring every year. This has resulted to the reforms in the sectors such as the Technical, Industrial, Vocational and Entrepreneurship Training (TIVET) Bill 2012 which among others aimed at making the sector shift from time bound curriculum-based training to flexible and competency-based training, from supply-led training to demand-driven training, expansion of the technical institutions to provide training to large numbers of young people who graduate annually from secondary and primary school systems and to harmonize the education training system for East African Countries (Owate, 2012).

1.2 Statement of the Problem

Education in the technical institutions in Kenya has been faced with challenges of relevance, educated unemployed, more demand for change in education to fit the industry among others (Chang'ach, 2013). There also exists issues of infrastructural inequities and dilapidated facilities and shortage of technical teachers (Otiato, 2009).

The number of students being absorbed in the technical institutions has been below the threshold despite the fact that the institutions are expected to absorb the remainder of students after the Universities have taken theirs (Harris, 2011).

The foregoing prompted the reforms in the technical educational training institutions in Kenya which were aimed at addressing these challenges. For instance, TIVET Act (2012) recommended streamlining curriculum to industrial needs, face-lifting physical facilities and expanding the institutions to accommodate more students. In line with the Act is the Vision 2030 through which Kenya expects to become a newly industrialised, middle-income country, providing high quality life for all its citizens by the year 2030. This will be through the production of produce goods and services of industrial nature that will be sold beyond her borders to generate real income for the country (Government of Kenya, 2007). It is the technical institutions which are expected to take the drivers seat by mass production of well qualified technologists and engineers. Yet the institutions are not producing people who will take the country to this Promised Land (Kenya National Commission of Human Rights, (KNCHR , 2012).

Expansion of the Universities has necessitated the takeover of the existing technical institutions by the National Universities such as the Kenya Science Teachers College, Muranga College of Technology and Kenya and Mombasa Polytechniques. This has resulted into the dying of the vocational colleges which fed the manufacturing industries with skilled labour (Cheserek & Mugalavai, 2012). This begs the question as to the commitment of the government to the achievement of the industrialization goal and the fate of students who are not admitted to the universities (Varghese, 2013). Failure in the implementation of the reforms in the education sector in general and technical education in particular has been attributed to lack of political goodwill, lack of consultation of the stakeholders and resistance to change among others (Obonyo, 2012). Reforms processes in the education sector are largely change management issues. Studies by Kaminski (2000), Senge (1999) and Moran and Brightman (2001) revealed that effective change management require constitution of proper

organizational structure, effective leadership, appropriate policies and relevant training interventions. Kessler (2009), Van Sant (2008) and Tropenbos (2007) found out that the product of effective change management should be better problem solving in an institution that leads to improved quality service to customers. It was against this background that this study sought to evaluate the change management capacity on education in the technical institutions in Kenya.

1.3 Objective of the Study

1.3.1 General Objectives

The general objective of the study was to investigate the effect of change management capacity on the delivery of quality education in public technical and vocational education institutions in Kenya.

1.3.2 Specific Objectives

1. To determine the influence of organizational structure on the delivery of quality education in technical and vocational education institutions in Kenya.
2. To establish the influence of leadership styles on the delivery of quality education in technical and vocational education institutions in Kenya.
3. To examine the influence of competence of policy makers on the delivery of quality education in technical and vocational education institutions in Kenya.
4. To determine the effect of training of instructors and management on delivery of quality education in technical and vocational education institutions in Kenya.

1.4 Research Questions

The following were the research questions:

1. What is the effect the organizational structure on the delivery of quality education in technical and vocational education institutions in Kenya?

2. What influence does leadership style have on the delivery of quality education in technical and vocational education institutions in Kenya?
3. Does the competence of policy makers influence delivery of quality education in technical and vocational education institutions in Kenya?
4. What is the effect of training of instructors and management on the delivery of quality education in technical and vocational education institutions in Kenya?

1.5 Significance of the Study

It was envisaged that results of the study could provide insight to the Government of Kenya (GOK) through the Ministry of Education, Science and Technology (MOEST) as to why some of the reforms initiated in the technical educational institutions have either failed or been implemented only partly. The government could therefore be in a position to formulate and implement appropriate policies that could address the gaps in the management of change in the institutions with a view to guarantee quality of education provided.

The results could also enhance understanding by management of technical institutions of the factors influencing the implementation of the recommended changes in the education sector and make adjustments to address the challenges which are within their jurisdiction.

The researcher expected that learners in the technical education institutions would benefit from the study by gaining relevant understanding of the factors affecting the quality of education in their respective institutions.

It was expected that the study would further contribute to the existing body of literature with regard to the influence of change management on the quality of education and create an avenue for further research by providing research gaps in the area of the study.

The stakeholders such as the industry where majority of the graduates from the technical institutions get absorbed would gain understanding of the factors affecting the quality of education in the technical institutions and why there is mismatch between education and the industry.

1.6 Scope of the Study

The researcher studied all the technical institutions in Kenya registered by the Ministry of Education, Science and Technology. Besides, the competence of the top management at the ministry viz – a –viz their ability to determine and influence change management was looked into.

1.7 Limitations of the Study

Some respondents were hesitant to provide the researcher with the information for fear of victimization. The researcher however did a follow-up with the respondents, promised them and assured them of confidentiality to all information given.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the theories guiding the study besides thorough scrutiny and formal examination of findings of various research works, articles and journals which had close connections with the study. The conceptual framework was also formulated and discussed in the chapter. The chapter then identified the research gaps before providing the summary of the chapter.

2.2 Theoretical Framework

This study was guided by the by three change management theories namely Kurt Lewin's three-step change management theory, Kotter's eight-step model and ADKAR model for change management.

2.2.1 Lewin's Three-Step Change Theory

Kurt Lewin (1951) introduced the three-step change model. It viewed behavior as a dynamic balance of forces working in opposing directions. Driving forces facilitate change because they push employees in the desired direction. Restraining forces hinder change because they push employees in the opposite direction. Therefore, these forces must be analyzed and Lewin's three-step model can help shift the balance in the direction of the planned change.

According to Lewin, the first step in the process of changing behavior is to unfreeze the existing situation or status quo which is considered the equilibrium state. Unfreezing is necessary to overcome the strains of individual resistance and group conformity. Unfreezing can be achieved by the use of three methods. First, increase the driving forces that direct behavior away from the existing situation or status quo. Second, decrease the restraining forces that negatively affect the movement from the existing equilibrium. Third, find a combination of the two methods listed above. Some activities that can assist in the unfreezing step include; motivating participants by

preparing them for change, building trust and recognition for the need to change, and actively participating in recognizing problems and brainstorming solutions within a group (Robbins, 2003).

Lewin's second step in the process of changing behavior is movement. In this step, it is necessary to move the target system to a new level of equilibrium. Three actions that can assist in the movement step include; persuading employees to agree that the status quo is not beneficial to them and encouraging them to view the problem from a fresh perspective, work together on a quest for new, relevant information, and connect the views of the group to well-respected, powerful leaders that also support the change.

The third step of Lewin's three-step change model is refreezing. This step needs to take place after the change has been implemented in order for it to be sustained or "stick" over time. It is likely that the change will be short lived and the employees will revert to their old equilibrium (behaviors) if this step is not taken. It is the actual integration of the new values into the community values and traditions. The purpose of refreezing is to stabilize the new equilibrium resulting from the change by balancing both the driving and restraining forces. One action that can be used to implement Lewin's third step is to reinforce new patterns and institutionalize them through formal and informal mechanisms including policies and procedures (Robbins, 2003).

Lewin's model of change fitted the study because as motivation is important for the unfreezing state so is leadership important in the transition phase and reassurance to both the organization and employees. Involvement and change are communicated and staff members are made aware of the benefits and implementation of change (Kelly 2008). Organization structure is important in unfreezing of the process because according to Chandler (1962), change management is dependent on the organizational dimension such as structure. This is explained in the model where firms decide on change strategy that puts in such structure, system, reward and process to support the strategy. Fair and consistent policies are useful ingredients in minimizing turbulent

resistance to change experienced in Lewis' 2nd stage of change process (Tushman, Newman & Romanelli, 1997)

2.2.2 Kotter's Eight-Step Model

Kotter, one of the most respected experts on the subject of change developed the Eight-Step change management Model.

The first step is to increase urgency for change, which means that management needs to convince employees that this change is necessary for the company to survive (Rose 2011). This also means having to communicate that the change is achievable without any detrimental effects on their jobs.

The next step is to build a team for the change, which has to be of some respected employees in the company. Building an effective team is based on trust and a common goal. When trust is present, you will usually be able to create teamwork (Kotter 1996).

The third step is to construct vision, which will show clear vision as to how the change will better the future of the company and their jobs. In a change process a good vision serves three important purposes; it clarifies the general direction for change and motivates people to take action in the right direction, even if the initial steps are painful. It helps coordinate the actions of different people, even thousands and thousands of individuals, in a remarkably fast and efficient way (Kotter 1996).

The fourth step is to communicate this vision. In order for the vision to work it must be fully understood by the employees, which means that it was necessary for the leaders of the change group to follow this vision. Nothing undermines the communication of a change vision more than behaviour on the part of key players that seems inconsistent with the vision (Kotter, 1996)

The fifth step is to empower the employees to execute the change. With the right structure, training, systems and supervisors to build on a well-communicated vision, increasing numbers of firms are finding they can tap enormous sources of power to improve organisational performance (Kotter, 1996).

The sixth step is the creation of short-term goals. By creating short-term goals, we assist the employees to accept the change by showing them progress. Rewards are very important at this stage too.

The seventh step is about persistence because we should influence more change even after the short-term goals are met or the original plan for change will cease and die.

The final step is to make the change permanent by moving and fitting it into the company's culture and practices, such as promotion (Chapman 2006).

The theory was applicable in this study because the researcher had theorized that lack of good leadership leads to erratic implementation of educational reforms (Cheserek and Mugalavai, 2012). The theory also concurred with the views of Tichy (1983) which held that competent policy makers are able to craft visions that earns an organization a competitive advantage. Leaders needed training on teamwork and communication skills to effectively manage change process in their institutions.

2.2.3 The ADKAR Model for Change Management

Hiatt (2006) developed the ADKAR model for change management in business, government and community organisations based on his 20 years experience as an engineer and project leader. The underlying theory was that project failure was caused by resistance to change and that effective management of this could greatly enhance the likelihood of project success. The model is based on many of the current known change management techniques but is presented in one clear model with a key underlying message: the key to successful change is in understanding how to facilitate change with one person.

ADKAR is an acronym for the five elements of the model:

A – Awareness of the need for change

D – Desire to support and participate in the change

K – Knowledge of how to change

A – Ability to implement the required skills and behaviors

R – Reinforcement to sustain the change

In analysing the different change management approaches available and the different activities employed to manage change, Hiatt's analysis was that he "was constantly bothered by the absence of an end result that these activities should produce" (Hiatt,

2006). The ADKAR model follows the natural order of how an individual experiences change. Hiatt defines each element of the model and analyses the factors that influence the success of these areas. It is through understanding each of the areas that metrics can be developed to measure success. Hiatt (2005) also describes change management activities: Communication, Sponsorship, Coaching, Resistance Management and Training, and the change management players: Primary Sponsor, Leadership Coalition, Managers and Supervisors, HR and Training, and the Project Team.

The theory was applicable in this study because ADKAR highlighted the importance of awareness, knowledge and ability in effective change management process. These are achievable through training which may be through on job, seminars and workshops or through whatever means. The employees will desire to support the change if the leadership involves them in identification and implementation of the actual change process (Paton & McCalman, 2000).

2.3 Conceptual Framework

A conceptual framework is a diagrammatical representation of hypothesised relationship between independent and dependent variables of the study (Mugenda & Mugenda, 2003). In this study the independent variables will be organizational structure, leadership skills, competence of policy makers while the dependent variable will be delivery of quality education. The moderating variable will be the training of the instructors in the technical and vocational education institutions in Kenya.

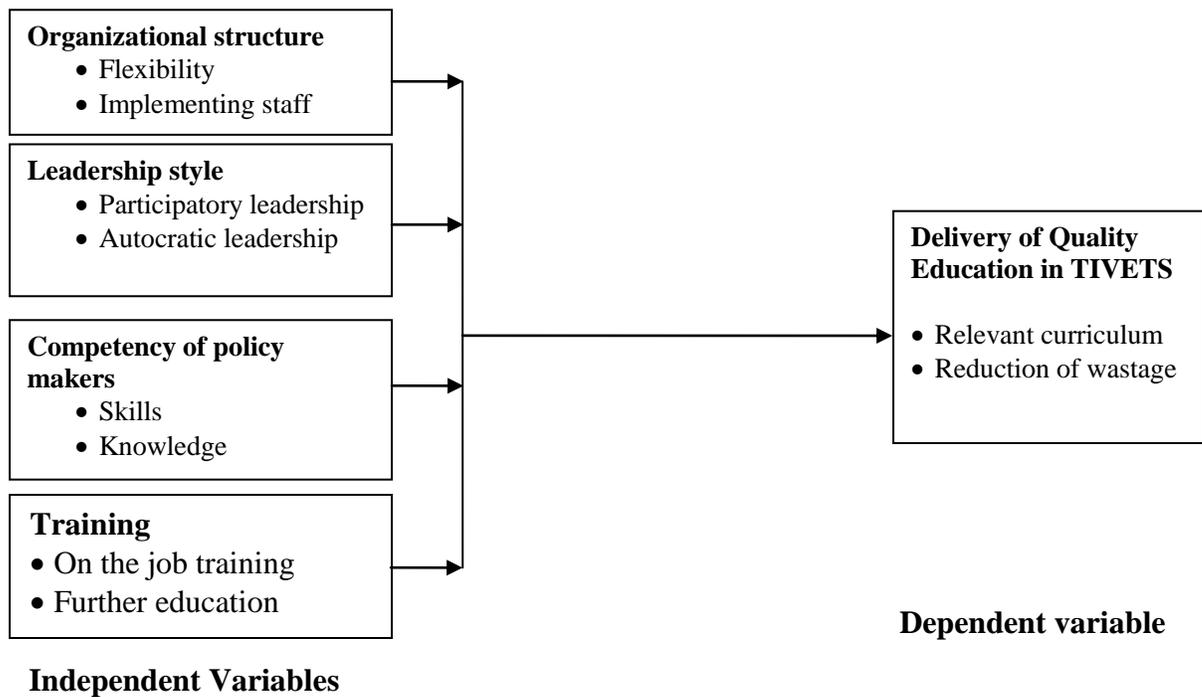


Figure 2.1 Conceptual Framework

2.3.1 Organizational structure

Among the issues pointed out by Hrebiniak (2006) as overreaching factors that impede change was the organizational structure. The study noted that managers were often trained to plan and not to execute strategies. The top managers are therefore always reluctant to “soil their hands” in the messy tasks of change implementation. This is because many of the areas of change are behavioral in nature and are therefore multifaceted and messy in nature and their execution always creates the need to manage change in complex organizational contexts (Kazmi, 2008).

For the successful reforms the responsiveness of the whole organization is critical for an organization to avoid the difficulties associated with this change (Al-Mashari & Zairi, 2000). Organizational structure plays an important role in helping management to achieve its objectives and follow the firm’s strategy (Robbin & DeCenzo, 2005). Many studies have found a significant relationship between organization structures and enhanced performance (Enz, 2008; Tarigan, 2005). Burns and Stalker (1961) and Covin and Slevin (1990), for example, reported such a structure to be more appropriate

than its mechanistic counterpart in an environment characterized by high rates of technological and market change. According to Tavitiyaman, Zhang, & Qu, (2012). organizations adopt a flexible structure to encourage greater staff participation, which, in turn, can improve problem identification and resolution and enhance performance and quality. Tarigan (2005) employed organizational structure as a moderating variable in analyzing the relationship between business strategies and performance.

MoEST is responsible for providing education to its citizens (Ministry of Education, 2008). It's tasks include distribution of learning resources, and implementation of education policies. Tertiary education, where technical institutions belong, falls under the Ministry. The ministry's mandate include: Science Technology Innovation (STI) Policy; research development, research authorization; and coordinating Technical Education (TE). The Kenya Institute of Curriculum Development (KICD) is responsible for educational research and development of the curriculum. It focused on providing quality, relevant and affordable educational and training programs in response to a changing social, economic and technological environment. The initiatives are met through continual research, evaluation, assessment and the monitoring processes (Kenya Institute of Education, 2009).

As the field of sustainability research matures, the value of implementing staff becomes more evident. Any organization can hire outside consultants to implement a strategy to achieve change to a certain extent and it has been done many times (Zeina, 2009). What is more challenging to an organization that remains a lingering question on researchers and business leaders' minds alike is how then to continue efficiently. It is one thing for a manager to set goals and a path for employees to follow in order to achieve the intended goals and another to work collaboratively to look at the system as a whole and learn how to improve the process from within to achieve the desired change (Senge et al, 2008).

2.3.2 Leadership Style

Bureaucratic leadership style refers to the following of the predetermined rules and policies of organization (Kellerman, 2003). The leaders are not dynamic and they never change their behavior with the changing environment. Bureaucratic leadership is characterized by leaders that follow the rules precisely and use positional power to influence results. The characteristics of the bureaucratic style include: leaders impose strict and systematic discipline on the followers, and demand business-like conduct in the workplace. They are empowered via the office they hold (position power) and followers are promoted based on their ability to conform to the rules of the office. Subordinates are expected obey leaders because authority is bestowed upon the leader as part of their position in the company (Howieson, & Kahn, 2002).

Leader, like authoritarian leader, tells people what to do and how to do. But the bases of all his orders are solely organizational policies, procedures and guidelines. Rules are absolute for bureaucratic leaders. He really works by job description and his job as a manager is more like a judge and he wouldn't accept any exception in rules even in special technical issues. This leader gives people little or no freedom (SeyedJavadin, 2007).

Bureaucratic leaders are also transactional as they impose strict discipline on subordinates and promotions are based on conformity to rules and performance results. Subordinates are expected to follow orders of the leader because of the authority that resides with his position (Kellerman, 2003). This type of leader is only beneficial in hazardous types of jobs where safety is paramount and standards are expected to be followed exactly to ensure accuracy. However, this leadership type may not be applicable in the technical institutions where reforms are being initiated and proper change management process is required. Sorensen and Yukongdi (2010) argued that bureaucracy affected the performance of the employees in an organization because it has significant impact on job satisfaction. Participatory leadership plays an important role in growing inner capabilities and priorities the success of the organization (O'Reilly, Caldwell, Chatman, Lapiz and Self, 2010).

Boleslaw (2009) argues that creation and design of change processes within an organization is most often a role of the participatory leaders within it. Change processes are the mandate of leaders engaged in the management of change. It is up to the participatory leaders to make these change initiatives tangible rather than abstract and to awaken enthusiasm and ownership of the proposed changes within the organizations.

For an effective change, the study revealed that charismatic leadership and trust in top management both are important. They are strongly correlated (positively) with change implementing behavior, monitoring of anticipators, management level, and department connection (Michaelis, Stegmaier & Sonntag, 2009). According to Bowerman (2003), the leader, as a person, is the most important tool for change. The leader's spirit, insight, wisdom, compassion, values, and learning skills are all important facets in the capabilities to lead others to embrace change and redesign. The leader who prompts change within a firm is often subject to approximate thought (Ajmal, Farooq, Sajid, & Awan, 2012). It is the leadership's behavior that makes the change situations more effective (Higgs & Rowland, 2005).

2.3.3 Competence of Policy Makers

The concept of competence and training is interpreted in many ways in education systems all over the world, resulting at one end of a continuum into a tick list of skills and at the other into a set of generic abilities that transcends disciplinary knowledge and skills (Kouwenhoven 2003). Based on various competence definitions and dimensions of the competence concept, that can be found in the literature, Kouwenhoven (2003) presented a comprehensive definition of competence that can be further clarified in a model, that describes what 'goes on in the head' (viz processing at cognitive level) when a task is realised. From this model, competency was deduced as 'the ability to process various inputs in an intentional way'. Or, in a more succinct way, competency is the capability to choose and use (apply) an integrated combination of knowledge, skills and attitudes with the intention to realize a task in a certain

context, while personal characteristics such as motivation, self-confidence, and willpower are part of that context (Kouwenhoven, 2003).

Hager and Gonczi (1996) as cited by Kouwenhoven, Howie and Plomp (2003). defined core competence as the capacity to accomplish ‘up to standard’ the key occupational tasks at a satisfactory or superior level that characterise a profession. A competent professional shows a satisfactory (or superior) performance. Key occupational tasks are the tasks that are characteristic of a profession. A profession could be described by 20 - 30 key occupational tasks (Kouwenhoven, Howie & Plomp, 2003). The broad, general concept of competence can be understood through the concept of ‘core competency’.

For effective change management there is need for the policy makers to have the core competencies and skills which entail information gathering, opinion seeking and evaluation among others so as to make reforms that will achieve the intended goals. In many developing countries, policy makers have been accused of making poor policies which fail in their implementation (Kouwenhoven, Howie & Plomp, 2003). This study therefore seeks to establish the effect of competence of policy makers with regard to quality of polices they formulate for implementation in technical institutions in Kenya.

2.3.4 Training of Instructors

According to Bodiner (2003) training is one of the factors that govern organizations’ effectiveness as it gives to work and rationalize effort spent on the job. Armstrong (2003) held that training is planned and systematic modification of behaviour through learning events, programmes and introduction which enabled individuals to achieve the levels of knowledge skills and competence needed to carry out their work effectively. It referred to a systematic process that enabled people to acquire new knowledge and skills so that they can perform their jobs better. It provided an opportunity for an employee to acquire job related skills, knowledge and attitudes. In training, learning must take place and this means acquisition of skills and knowledge

and attitudes. It also included activities designed to prepare employees to keep pace with the organization as it grew (Armstrong, 2003).

Therefore for effective implementation of the changes that had been proposed for the technical training institutions, the management and the policy makers need training to effectively manage the change. Staff training has therefore become a key agenda of every organisation including the education sector. If the technical educational training institutions were to achieve any quality, then there was need to train the change agents so as to acquire and develop knowledge and skills relevant for the institution (Barron & Hagerty 2001).

Armstrong (2003) contended that it had become necessary for organizations to provide long and systematic training and development programs for its employees. This was because of the ever increasing dynamism of the work environment. For instance, a manager in an organization, whether large or small, will not be successful unless he/she has subordinates who are well equipped with skills, talent and knowledge. Furthermore, to implement any programme of change successfully, there is need for training of both the employees and the management on the requirement for the successful implementation of that change (Bodiner, 2003).

Organizations may offer training for their staff in the forms of workshops and seminars. Kroehnert (1995 cited in Odinga, 2010), in an in depth analysis found out that through seminars, a problem may be defined and then given to the participants to rectify under the supervision of the seminar leader. Training seminars bring direct benefits to the business and for this very reason can be calculated as a return on investment which the researchers strongly agreed with on the Human Capital Theory that this study anchored on. Kroehnert conclusively stated that performance among the employees of the organization increased even while the training seminar took place. Often, staff who receive formal training are found to be up to more productive than their untrained colleagues who might be working on the same role. Odinga (2010) concluded that short term training as staff development, which included workshops,

conferences, action research projects and graduate programs can be initiated for a variety of reasons for an employee or group of employees.

Emojong (2004) in his study on in-service training programs and their effects on performance of staff at Ugandan Revenue Authority found out that the training courses the organization offered to its employees had been of immense significance on their performance at work. The trainings offered by the schools and the government would be of benefit to the teachers and other educational change agents.

However, Barron and Hagerty (2001) argued that the formal educational system did not adequately teach specific job skills for a position in a particular organization or for this matter a change that was intended. Few employees may have the requisite skills, knowledge, abilities and competencies needed to work. As a result, many required extensive training to acquire the necessary skills, knowledge, abilities and competencies to be able to make substantive contribution towards the change.

2.3.5 Quality of Education

Liston (1999) defined quality of education as the total effect of the features of the process, or service on its performance, or the customer's or clients' perception of that performance. It is not just a feature of a finished product or service but involved a focus on internal processes and outputs, and included the reduction of waste and the improvement of productivity. This view of quality applied to education implied that quality cannot be measured by looking at the outputs which are the examination results. Rather it is the internal efficiency of the school system, which controls for wastages in form of school dropouts, repetition rates, or wastage ratios, is a more appropriate measure of the quality of education.

Liston (1999) further argued that quality was related more to the relevance and value of each institution's mission, purpose and objectives and the achievement of identified outcomes. Low capacity of change management in the sector would hamper the

achievement of the identified educational objectives. Hoy, Bayne–Jardine and Wood (2000) said that quality was what was good for the school and its students.

Another way of looking at the quality of education is to use the effective schools view which advocates for the black box technique of measuring inputs and outputs (Namaswa, 2009). For a social service like education, this approach cannot be applied in total, as it overlooks certain immeasurable attributes of good education that cannot be read from mere pass rates. Hoy *et al.* (2000) referred to the 1998 Phi Delta Kappa/Gallup poll of the public’s attitudes towards public schools’ effectiveness. The percentage of students graduating from high school was rated highest at 82% while scores of students in standardized tests was ranked lowest at 50%. The public thus viewed quality more to do with the total effect schooling had on the individual rather than just examination results.

According to Ministry of Education (2008) all aspects of the school and its surrounding community, the rights of the whole child, and all children to survival, protection, development and participation are at the centre. This meant that the focus was on learning which strengthened the capacities of children to act progressively on their own through the acquisition of relevant knowledge, useful skills and appropriate attitudes; and which creates for children, and helps them create for themselves and others, places of safety, security and healthy interaction (Bernard, 1999). Many definitions of quality in education exist, testifying to the complexity and multifaceted nature of the concept. The terms efficiency, effectiveness, equity and quality have often been used synonymously (Motata, 2001).

Curriculum has been defined as the foundation of the teaching-learning process that any quality education will depend on its relevance (Sahlberg, 2011). The development of programs of study, learning and teaching resources, lesson plans and assessment of students and even teacher education are all based on relevance of the curriculum (Levin, 2007).

According to De Coninck (2008), curriculum, more than ever before, is now viewed as being at the centre of daily life and the responsibility of society as a whole. Levin (2007) noted that curriculum documents were a very large part of the work done by ministries of education in creating curriculum content. However, over time, the above study stated that educational change is more complex, and as governments have attempted to make large-scale changes, curriculum change has become less of an activity in its own right and curriculum renewal has become part of a broader strategy for change in education to enhance its quality (Sahlberg, 2011).

The reforms in the education sector are aimed at improving the quality of education through improvement of the performance of the students through achievement of better grades. Studies have shown that academic performance which is achievement of good grades remains a crucial factor in determining who graduates from high school and who proceeds to college (Perna, 2005; Silver, Saunders & Zarate, 2008). A number of studies, for example, have found that high school performance and postsecondary educational status is influenced by a student's academic trajectory beginning as early as elementary school which is influenced by the quality of education right from the beginning (Zarate & Gallimore, 2009).

2.4 Empirical Review

Havelock and Hubberman (2008) surveyed the theory and reality of education reforms in the developing countries and Kenya. They stated that there was a tendency for education reforms to evolve ambitious major system transformation with what they described as “very rapid movement through the problem solving cycle from initial assessment of the need for change to the designed/designate of the solution and the implementation of that solution (Wanyama & Chang’ach, 2013). There must be one year of the process of change where there is time for people/stakeholders thus educational planners, educational administrators, political elites, teachers, parents and students to think of change, manage change and educate the stakeholders of the reform process and their roles for reforms to yield desired results (Otiato, 2009).

Studies by Barker (1998) and Denton (1996) found that training was an essential element in change as it enhanced the knowledge and skills of the employees for they were able to know to do their new tasks. They noted that an appropriate training is a prerequisite for successful empowerment. Barker (1998) however, noted that many organisations that participated in the study did not want to confront the issue due to the amount of effort and money needed for arranging proper training.

A study by Lanning (1996) on the need for training in change management found that both general and job-specific training is needed. He noted that the main objective of the general training is to increase both employee willingness to change, and their understanding of the basics of organisational development. It was revealed that through the job-specific training, the employees were guided to plan their own operations and working methods and to be able to work with enhanced power and responsibility.

According to the study by Moran and Brightman (2001) on how to lead organizational change, organizational structure was very important for effective change management. They noted that the change process requires that right structure is put into place as every change requires unique approach for successful execution. Kessler (2009) and Sant (2008) in their studies found that the leaders' approach to change management of restructuring was very important for the success of the change process as it was likely that dictatorial leadership was likely to lead to resistance to change by the employees.

2.5 Critique of the Existing Literature Relevant to the Study

The change management should start with the assessment of the need for the change failure to which the process is doomed to fail. In their argument, Havelock and Hubberman (2008) opined that the educational reforms are characterised by rapid movement through the problem solving cycle without proper change design. They however did not highlight how capacity of the change management agents influenced

the quality of education in the technical educational institutions thereby creating a need for further research on the same.

Sifuna and Otiende (2009) blamed the failure in educational reforms on hurried implementation disregarding careful study and planning for process of change. While this is important, they did not highlight the contribution of change management capacity thereby opening up a window for further study to investigate the role of change on the quality of education in technical educational institutions.

Wanyama and Chang'ach (2013) blamed the failure in the reform process in organizations on unpreparedness of the administrators. In their argument, they said the lackluster in the reforms process was due to bureaucracy in the management process which affected the achievement of the desired change results without really identifying how organizational structure affected the change process. Their work therefore left a grey area on how the organizational structure influenced the quality of education in the technical educational institutions hence a knowledge gap that the current study endeavored to fill up.

Studies by Musaaazi (1985) looked at the need for reforms and opined that there was need to evaluate reforms to include human resource. He argued that that training more human capital would result into improved economy. The study did not however look at the importance of successful implementation which relied on change management capacity hence need for investigation of the influence of change management capacity on the quality of education in the technical educational institutions.

2.6 Research Gaps

The reviewed literature highlighted the various reforms that took place in the education sector in general and the technical education in particular since independence and the possible achievements and failures. For instance Havelock and Hubberman (2008) and Sifuna and Otiende (2009) looked at the process of change implementation while Wanyama and Chang'ach (2013) looked at the effect of

leadership on change management process. Musaazi (1985) noted the importance of training on effective implementation of reforms. However, they did not highlight the link between the change and the change management capacity. This study sought to determine the effect of leadership style on the delivery of quality education in technical and vocational education institutions in Kenya.

Equally studies by Stegmaier and Sonntag (2009) showed that some of the changes initiated failed due to lack good leadership. The review did not however highlight how this change was managed and whether there was adequate capacity to do so. Various researchers highlighted the importance of planning in the change management as necessary ingredients for the successful change management. However, the studies did not highlight whether there was capacity for the planning process. This study sought to establish the effect of competence of policy makers on the delivery of quality education in technical and vocational education institutions in Kenya.

2.7 Summary

The reviewed literature examined the various reforms in the education since independence with their implications. It showed that the change had been dynamic with the change at independence being focused on manpower model while today the reforms are focused on development of skills and industrialization. The review identified policy makers' competence, leadership style, organisation structure as the main variables affecting change management capacity in technical institutions.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology. The design of the study was formulated so as to facilitate the smooth sailing of research operations and make it as efficient as possible. This according to Kothari (2004) would enable yielding of maximum information with minimum expenditure of effort, time and money. It covers research design, target population, sampling frame and sampling technique, research instruments, piloting, validity and reliability of the instruments and data collection, analysis and presentation procedures.

3.2 Research Design

The study adopted a survey research design to evaluate the management capacity on the quality of technical education in Kenya. According to Mugenda and Mugenda (2003) surveys enable researchers to obtain data about practices, situations or views at one point in time through questionnaires and interviews. Surveys can be used to collect data on a wide range of topics for different units of analysis and for this matter the unit of analysis is the human behavior where the actions and behaviours of the respondents are tested. It is concerned with the questions as What, How and why of a phenomenon which was the concern for the study (Kothari, 2004).

The purpose of survey was to produce quantitative descriptions of some aspects of the study population. It sought to describe how organizational structure, leadership style and the competence of the policy makers influenced the quality of technical education. The choice of survey as a preferred method was because survey analyses are primarily concerned with relationships between variables (Kothari, 2004).

3.3 Population

The target population of the study was all employees in the technical training institutions in Kenya and the management of the Ministry of Educations' Directorate

of Technical Education. According to the Directorate's human resource department, there were 31 employees in the job groups M to S which is the management cadre. The study targeted all the technical institutes under the TIVET sector in the Ministry of Education, Science and Technology and the Ministry of Labour and Human Resources Development. The TIVET sector had 47 technical colleges with three categorized as National. The study targeted the management and instructors of technical institutions. According to the Directorate of Technical Institutions (2012), there were 4,124 instructors in the public technical institutions in Kenya.

3.4 Sampling Frame

The sampling frame of this study was drawn from 47 technical institutions in Kenya which are registered by the Directorate of Technical Education and a list 31 employees in the job groups M to S from the human resource department in the directorate of technical education (D.T.E.)

3.5 Sample and Sampling Technique

According to Best and Khan (2009) there is usually a trade off between the desirability of a large sample and feasibility of a small one. The researcher therefore ensured that the sample was large enough to serve as adequate representation of the population about which generalization was made while at the same time being small enough for selection economically in terms of subject availability and expenses in both time and financial resources.

The researcher sampled 14 technical institutions from the total 47 which represented 30% of the target population which is in line with Mugenda and Mugenda's (2003) recommended 30% of the population. The study then sampled 235kl respondents using both stratified random sampling and purposive sampling which is 36% of the population of the sampled in technical institutions. The Sample size of this study was determined by the population using sample size formula 'return sample size method' for categorical data as propounded by Bertlett, Kotrilik and Higgins, (2001) and emphasized by Mugenda and Mugenda (2003):

$$n = \frac{z^2 p(1-p)}{d^2}$$

Where:

n -: the desired sample size.

Z -: was the corresponding standard score with the probability of error at 0.05 and a confidence level of 95%, which is 1.96

p -: was the occurrence level of the phenomenon under study and is equal to 0.5 where the occurrence level was not known

d -: was the selected probability of error of the study corresponding with 95% confidence level in this case 0.05

Substituting for the values:

$$n = \frac{1.96^2 \times 0.5(1-0.5)}{0.05^2}$$

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2}$$

$$n = 384$$

However since the target population to the study (689) is less than 10,000, the final sample size estimate could be adjusted as recommended by Mugenda (2003).

$$fn = \frac{n}{1 + n/N}$$

Where:

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

n = the sample size when the population is above 10,000

N = the population of the target sub-population

Substituted for the values:

$$n = \frac{384}{1 + 384/689}$$

$$n = 246$$

The study used stratified sampling method to select the management and instructors of the sampled technical institutions as it is applicable if a population from which a

sample is to be drawn does not constitute a homogeneous group (Mugenda and Mugenda, 2003). It allowed the researcher to divide the sample into appropriate strata that are mutually exclusive. According to Coopers and Schindler (2000), stratified sampling gives statistical efficiency increase on a sample provides adequate data for analyzing the various sub-population and enables different research methods and procedures to be used in different strata.

The first strata were the managers of the Directorate of Technical Education. The second strata had the National Polytechnics while the third strata were the other 11 technical institutions. The lottery method was then used to have a random sample from each of the categories. The numbers assigned to an element was written on a small paper and folded to conceal them. They were placed in a container and properly shuffled, after a paper was picked randomly. The number on the picked paper was recorded. The exercise was repeated until the sample size was achieved. A similar procedure was carried out in each of the technical schools to maintain the research procedure, arriving at a proportionate sample from each stratum. All the individuals on the sampling frame therefore had an equal opportunity to be included in the sample. The table 3.1 shows the distribution:

Table 3.1: Sample Size

Duty station	Personnel	Population	Sample Size	%
Directorate of Technical Education	Managers	31	11	4
National Polytechnics	Institution Managers	9	3	1
	Instructors	152	54	22
Technical Institutions	Institution Managers	33	12	5
	Instructors	464	166	68
Total		689	246	100

Source: Directorate of Technical Education (2012)

3.6 Research Instruments

Data was collected using structured questionnaires and interview schedules. The questionnaires were preferred as the most suitable instruments for the data collection

because they allow researchers reach many respondents (or large samples) within limited time (Mugenda & Mugenda, 2003). It also ensured confidentiality and thus helped gather more candid and objective answers. The questionnaires were developed to address the objectives of the study. Kothari (2003) observed that questionnaires enable the person administering them to explain the purpose of the study and to give meaning of the items that may not be clear. Mugenda and Mugenda (2003) argue that, questionnaires are used to obtain important information about the population.

The purpose of the interviews was to explore experiences of the management in the change management process. The interviews generated data in form of notes, brief phrases and full paragraphs of texts. The current study adopted semi-structured interviews. These allowed the researcher to probe some responses in the course of the interview sessions. In addition, they have been credited because they facilitated organization and analysis of the data as such data was easier to organize unlike unstructured interview data.

Face-to-face interviews had the advantage of providing both interviewer and interviewee with non-verbal cues which promoted the development of rapport between the two people involved (Heyl, 2001). Semi-structured interviews promote positive rapport between the interviewer and interviewee. The semi-structured interview is very simple, efficient and practical way of getting data about things that cannot be easily observed, such as feelings and emotions (Heyl, 2001). The interviews in this study included a list of pre-prepared questions.

3.7 Data Collection Procedures

Data collection was conducted in two steps. The first involved, as a requirement, that prior to actual data collection the researcher secured a letter of introduction from the University department, stating the intention to carry out a study and requesting those concerned to give permission to conduct the approved research. The researcher then sought a permit to carry out the empirical research from the National Council for Science, Technology and Innovation (NACOSTI). The researcher then proceeded to

inform the management of the ministry and the institutions about the intended research. Their authorization letters was collected by the researcher before administering the instruments.

The researcher self-administered the questionnaires to the respondents and conducted interviews with the assistance of trained research assistants.

3.8 Pilot Study

Piloting of the questionnaires was done in some of the institutions and the respondents used did not participate in the main study. The study selected six respondents comprising of one directorate management, one technical institutions management and four instructors which represented one percent of the sample size as Mugenda and Mugenda (2003) pointed out that a successful pilot study should use one to 10 percent of the actual sample size. According to Borg and Gall (2003), piloting of research instruments is important for validity and reliability tests of the instruments.

3.8.1 Validity of the Research Instruments

A research instrument is said to be valid if it measures what it is supposed to measure (Borg and Gall 2003). The draft questionnaires were given to a selected person knowledgeable in research to ascertain the items suitability in obtaining information according to research objectives of the study. The university supervisor was the select expert for purposes of content validation. This process assisted in eliminating any potential problems of the research instrument and provided a basis for design or structural changes. This was done to test the validity and workability of the instrument.

3.8.2 Reliability of the Research Instruments

Reliability of instruments concerns the degree to which a particular instrument gives similar results over a number of repeated trials (Mugenda and Mugenda, 2003). The researcher pre-tested each of the questionnaires to the pilot sample. These respondents were not used in the main study. Pre-testing was conducted to check the questionnaires structure and the sequence, meaning and ambiguity of questions. It was done in order to refine and ascertain the reliability of the research instruments before they were

applied in the actual research (Cooper and Schindler, 2003). As a result of piloting discovered errors were corrected, ambiguous questions made clearer and relevant and contents revised. To compute the coefficient, the researcher used the formula:

$$Re = \frac{2r}{r + 1}$$

Where Re = reliability of the original test

r = reliability of the coefficient resulting from correlating the scores of the odd items with the scores of the even items.

According to Mugenda and Mugenda (2003) the instruments are reliable if the reliability coefficient is above 0.7.

Reliability Results

The reliability test was done and the items that fell below the Hair, Tathan, Anderson and Black (1998) 0.4 were removed and retested again. The findings are presented in Table 3.2.

Table 3.2: Reliability Test

Items	Cronbach’s Coefficient
Organizational structure	0.731
Leadership style	0.737
Training	0.737
Policy makers competence	0.848
Quality of technical education	0.811

The results show that the items achieved the Mugenda and Mugenda’s (2003) recommended 0.7 for internal consistence of data.

3.9 Data Analysis and Presentation

Upon completion of the data collection exercise, all completed research instruments were assembled, coded, summarized, entered into the computer; and analyzed using the statistical package for social science (SPSS) version 17.0. Both descriptive and

inferential statistics were used for analysis. Descriptive statistics consisted of computation of sums, means, standard deviations, frequencies and percentages.

The analyses was further amplified by subjecting selected results to use of graphical and tabular techniques permitting to some of the results to be presented in form of tabular matrices and pie / bar charts for clarity. Qualitative data was analysed using content analysis. This provided ways of discerning, examining, comparing and contrasting, and interpreting meaningful patterns or themes from data (Miles and Huberman, 1994). Meaningfulness was determined by the particular objectives of the research study. Qualitative approaches to data analysis tend to focus on the descriptive or theoretical aspects of the transcript data.

The study used regression analysis to establish how the organizational structure, leadership style, competence of policy makers and training affected the quality of technical education in Kenya.

Regression model

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Where:

Y	-	Quality of technical education
α_0	-	Is the constant
X_1	-	Organizational structure
X_2	-	Bureaucratic leadership style
X_3	-	Competence of policy makers
X_4	-	Training of instructors and management
$\beta_1, \beta_2, \beta_3$ & β_4	-	Coefficients
e	-	Error term

To test for normality, the Chi square inferential statistical method was used to show the association between variables at 95% level of confidence.

The chi-square statistic is a nonparametric statistical technique used to determine if a distribution of observed frequencies differs from the theoretical expected frequencies. Chi-square statistics use nominal (categorical) or ordinal level data, thus instead of

using means and variances, this test uses frequencies. The results of analysis were presented in pie charts, tables and graphs.

3.10 Operationalization of variables

Objectives	Variables	Measurement
To determine the influence of organizational structure on the delivery of quality education in technical and vocational education institutions in Kenya.	<ul style="list-style-type: none"> • Flexibility • Implementing staff 	<ul style="list-style-type: none"> • Descriptive statistics • Inferential statistics
To establish the influence of leadership styles on the delivery of quality education in technical and vocational education institutions in Kenya.	<ul style="list-style-type: none"> • Participatory leadership • Autocratic leadership 	<ul style="list-style-type: none"> • Descriptive statistics • Inferential statistics
To examine the influence of competence of policy makers on the delivery of quality education in technical and vocational education institutions in Kenya.	<ul style="list-style-type: none"> • Skills • Knowledge 	<ul style="list-style-type: none"> • Descriptive statistics • Inferential statistics
To determine the effect of training of instructors and management on delivery of quality education in technical and vocational education institutions in Kenya.	<ul style="list-style-type: none"> • On the job training • Further education 	<ul style="list-style-type: none"> • Descriptive statistics • Inferential statistics

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the findings of the study. The purpose of this study was to present the responses in a way to address the research objectives

4.2 Response rate

A total of 246 respondents were targeted comprising of 11 managers from the D.T.E., 15 technical institution managers and 220 instructors. From the sampled respondents, 11 Directorate managers, 11 institution managers and 201 instructors responded giving a response rate of 90.6%. There were divergent responses Table 4.1 shows the distribution of firms studied by sector.

Table 4.1: Response Rate

Duty station	Personnel	Sample Size	Response rate	%
Directorate of Technical Education	Managers	11	11	4
National Polytechnics	Institution Managers	3	2	1
	Instructors	54	48	22
Technical Institutions	Institution Managers	12	9	5
	Instructors	166	153	68
Total		246	223	100

The findings of the study were as presented in the following sub-sections:

4.3 Factor Analysis and Results

The study adopted factor analysis in order to reduce the number of indicators or factors under each research variable, retain the indicators capable of explaining the change management capacity of technical educational institution and how it's effects on the quality of technical education. The retained factors had loading values of above

0.4 and were used for further analysis. According to Hair et al. (1998) and Tabachnick and Fidell (2007) factors with factor loading above 0.4 shall be retained for further study where they described the factor loadings as follows: 0.32 (poor), 0.45 (fair), 0.55 (good), 0.63 (very good) or 0.71 (excellent).

To measure the reliability of the gathered data, Cronbach's alpha was used. It is a coefficient of reliability that gives an unbiased estimate of data generalizability (Zinberg, 2005). An alpha coefficient of 0.70 or higher indicated that the gathered data was reliable as it has a relatively high internal consistency and can be generalized to reflect opinions of all respondents in the target population (Zinbarg, 2005). The following sub-sections present factor analysis for each of the study indicators:

4.3.1 Organizational structure

Table 4.2 shows Cronbach's Alpha values of all indicators before and after extraction of indicators with a factor loadings value of less than 0.4. Cronbach's Alpha results in the first column were computed using results of all the indicators and the Cronbach's Alpha results in the last column were computed after the reduction of indicators/factors with factor loadings of less than 0.4.

It shows that the Cronbach's Alpha results of all the organizational structure factors was 0.706 before the reduction of factor loading of less than 0.4 and factor loadings results were between 0.733 and 0.389. This implies that one of the factors with less than 0.4 was reduced. The rest of the factors were retained for further analysis as recommended by Hair, Tathan, Anderson and Black (1998) that factors with factor loadings of above 0.4 should be retained for further data analysis. Using all the retained organizational structure factors the value of Cronbach's alpha was computed again and generated an alpha value of 0.731. This indicated that data collected using most of the organizational structure indicators was reliable since the Cronbach's alpha was above 0.70 and this corroborated with Zinbarg (2005) that an alpha coefficient of 0.70 or higher indicates that the gathered data is reliable as it has a relatively high internal consistency and can be generalized to reflect opinions of majority of the respondents in the target population. The organizational structure factors, except one factor, 'other employees feel left out in the reform processes' which was dropped.

Table 4.2 Factor Analysis and Reliability of Organizational Structure

Cronbach's Alpha before	Indicators	Factors loading	Cronbach's Alpha after
.706	All employees treated equally in implementation of reforms	.733	.731
	Organization management is accommodative	.705	
	Management are responsible for the management of the changes in the institution	.684	
	Always a team in place to oversee the new reforms	.648	
	Description organizational structure	.534	
	Quality of training attributed to flexible organization structure	.520	
	Other employees feel left out in the reform processes	.389	

4.3.2 Leadership Style

Table 4.3 shows Cronbach's Alpha values of leadership style factors before and after extraction of factors with a factor loadings value of less than 0.4.

The results show that most of the leadership styles factors had a Cronbach's Alpha value of 0.733 and factors loadings values 0.980 and 0.291. The study dropped three factors including 'rules followed strictly in the process', 'areas of investment' and top management involved in change process during reforms. Only factors with factor loading of below 0.40 are dropped as recommended by Field (2000). After dropping the factors the reliability test was done which yielded a Cronbach's Alpha value of 0.737. With the Cronbach's Alpha value of more than Zinbarg's (2005) recommended 0.7 implying a higher reliability of the data gathered, there was a high internal

consistency and therefore the findings were generalized to reflect opinions of all the respondents in the target population about the study problem.

Table 4.3: Factor Analysis and Reliability of Leadership Style

Cronbach's Alpha before	Indicators	Factors loading	Cronbach's Alpha after
.733	Staff is free to do what they think is right	0.980	.737
	Principal gives orders on what is to be done at every stage of change process	0.782	
	Principal does not involve staff but leave process to take course	0.761	
	Leadership takes role in change process	0.760	
	Principals involve staff in decision making	0.716	
	Leadership supports staff in assignments	0.711	
	Principal's leadership	0.626	
	Leadership influenced quality of education	0.621	
	Rules followed strictly in the process	0.378	
	Areas of involvement	0.333	
	Top management involved in change process during reforms	0.291	

4.3.3 Training

Table 4.4 shows Cronbach's Alpha values of training factors before and after extraction of factors with a factor loadings value of less than 0.4.

The table presents that all the six training factors had a Cronbach's alpha value of 0.737 and factor loading of between 0.982 and 0.566. This therefore ruled out elimination of any training factors as none of the factors had a factor loading of less than 0.40. The Cronbach's Alpha value remained 0.737 since all the factors were retained. The Cronbach's Alpha value of more than 0.7 implied that the gathered data was reliable and therefore could be used for generalization.

Table 4.4: Factor Analysis and Reliability of Training

Cronbach's Alpha before	Indicators	Factors loading	Cronbach's Alpha after
.737	Training enhanced quality of technical education	.982	.737
	Organization offered training to employees for implementation of change	.944	
	Areas of training	.885	
	Have received training on implementation of reforms	.765	
	Duration of training	.679	
	Have required skills for efficient implementation of change	.566	

4.3.4 Policy Makers' Competence

Table 4.5 (see appendix vii) shows Cronbach's Alpha values of competence of policy makers' factors before and after extraction of factors with a factor loadings value of less than 0.4.

It shows that the Cronbach's alpha results of all the policy makers competence factors was 0.848 and the factor loading of between 0.985 and 0.586. This therefore ruled out elimination of any policy makers' competence factors as none of the factors had a factor loading of less than 0.40 as recommended by Hair, Tathan, Anderson & Black (1998). The Cronbach's Alpha value of more than 0.7 implied that the gathered data was reliable and therefore could be used for generalization.

Table 4.5 Factor Analysis and Reliability of Policy Makers' Competence

Cronbach's Alpha before	Indicators	Factors loading	Cronbach's Alpha after
.848	Consultation with stakeholders	.985	.848
	Mobilization of resources	.894	
	Selecting the team to spearhead the process	.855	
	Institution management give other staff opportunity to participate in change process	.840	
	Organization charge a particular group with change process	.777	
	Plan for implementation of educational reforms	.689	
	Training of staff on change	.586	

4.3.5 Quality of Technical Education

Table 4.6 (see appendix vii) shows Cronbach's Alpha values of quality of technical education factors before and after extraction of factors with a factor loadings value of less than 0.4.

As can be seen on Table 4.6 , most of the quality of technical education factors had a Cronbach's Alpha value of 0.803 and factors loadings values 0.891 and 0.321. The

study dropped one factor namely graduates were self starters and had excelled in entrepreneurship. Only factors with factor loading of below 0.40 as recommended by Field (2000) were retained. After dropping the factor the reliability test was done which yielded a Cronbach’s Alpha value of 0.811. With the Cronbach’s Alpha value of more than the recommended 7.0, there was a high internal consistency and therefore the findings were used in generalization to reflect opinions of all the respondents in the target population.

Table 4.6: Factor Analysis and Reliability of Quality of Technical Education

Cronbach's Alpha before	Indicators	Factors loading	Cronbach's Alpha after
.803	Institution produces competent graduates fit for the job market	.891	.811
	There is minimal drop out of students	.890	
	The number of enrolment has been going up	.771	
	Graduates get absorbed into the job market	.559	

4.4 Descriptive Statistics

Descriptive statistics were used to describe the basic features of the data in the study. They provided simple summaries about the sample and the measures. Together with simple graphics analysis, they formed the basis of virtually every quantitative analysis of data (Tronchim, 2006). The study used descriptive statistics to present the frequency and the percentages of the gathered data on the change management capacity and its effect on the quality of education in technical institutions in Kenya.

4.4.1 Background Information

This section presents personal information of the respondents who participated in the research study.

a) Age of the Respondents

The study sought to determine the ages of the respondents to find out whether it had any influence on the service delivery argued by Holst (1999). The findings are shown in Figure 4.1 .

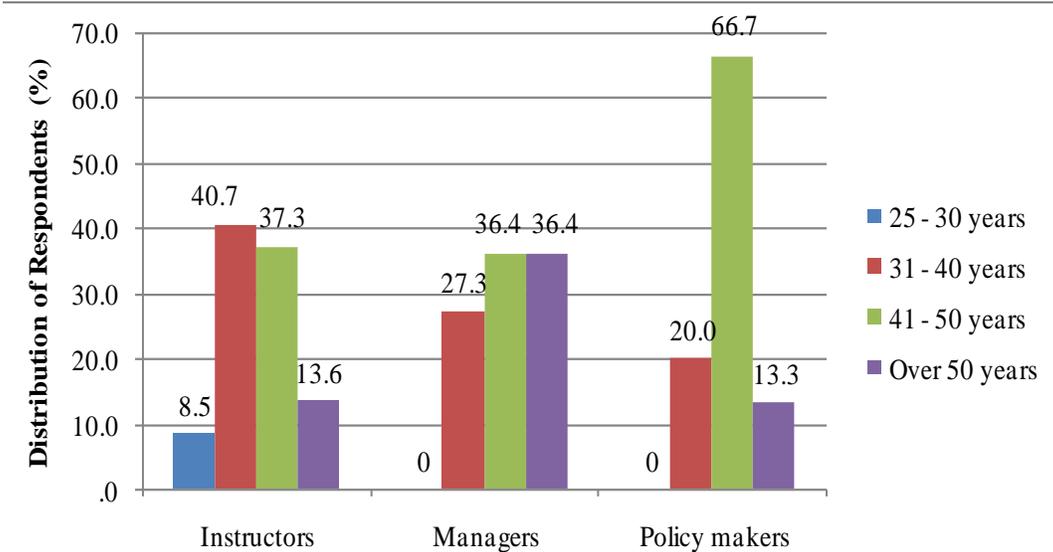


Figure 4.1: Distribution by Age

The results show that 40.7% of the instructors were aged between 31 and 40 years while 37.3% were aged between 41 and 50 years. The study findings further show that 36.4% of the managers were aged between 41 and 50 years and over 50 years. It emerged that 27.3% of the managers were aged between 31 and 40 years. For the policy makers, the results show that majority (66.7%) were aged between 41 and 50 years while only 20% were aged between 31 and 40 years and the rest (13.3%) were aged over 50 years. The study findings mean that while the age of the instructors was distributed in all the age categories with concentration between 30 and 49 years, there were no institutional managers aged 30 years and below but equal distribution in other categories while the same was for the policy makers with concentration between 41 and 50 years.

b) Respondents Designation in the Organizations

The study sought to determine the positions held by the respondents in their respective organization in order to ascertain whether position held in the organization influenced the change capacity in the technical educational institutions in Kenya. The findings are presented in Figure 4.2 .

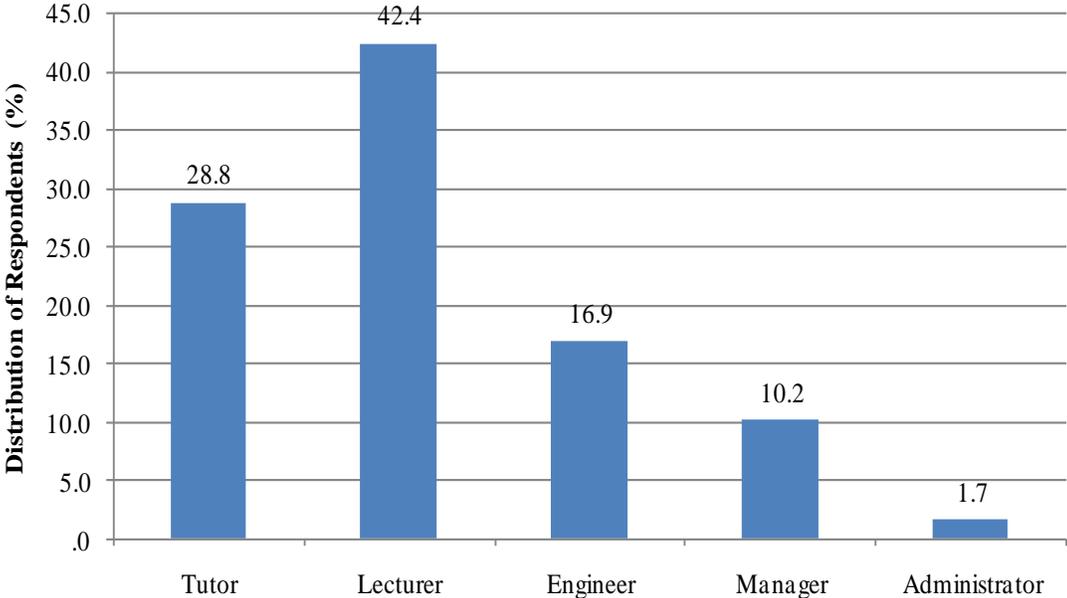


Figure 4.2: Distribution of Respondents by Designation

The findings show that most of the respondents (42.4%) were lecturers. The results further revealed that 28.8% of the respondents were tutors implying that the instructors were the majority of the respondents.

c) Education Level of the Respondents

It was important to establish the education level of the respondents in order to ascertain if they were equipped with the skills to effect the changes initiated in the technical educational institutions. The results are presented in Figure 4.3 .

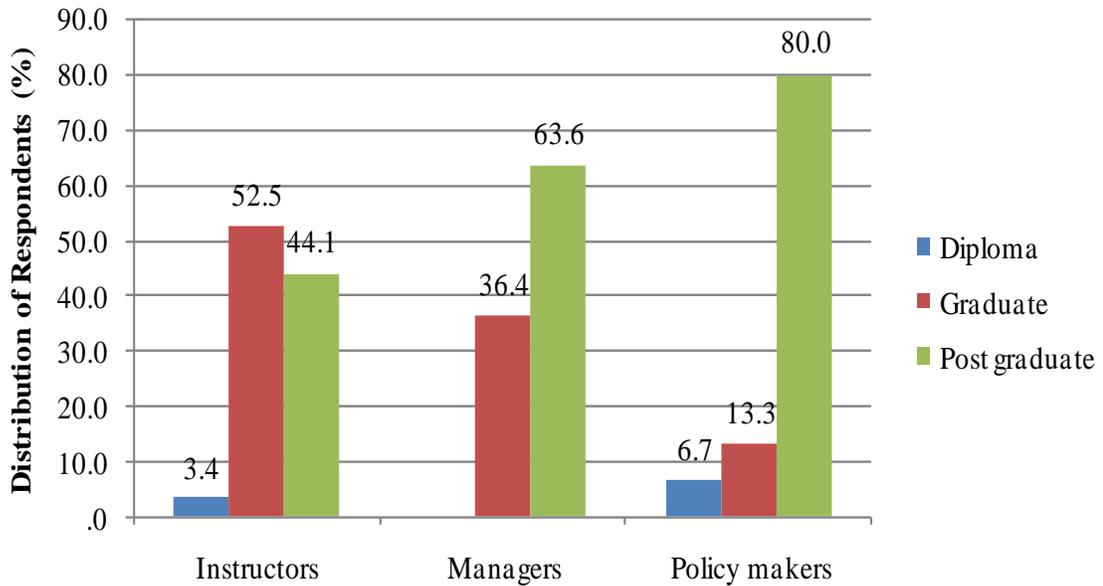


Figure 4.3: Education Level of Respondents

The findings show that most of the instructors (52.5%) were graduates while 44.1% had post graduate education. On the other hand, majority of the managers (63.6%) had post graduate level of education while 36.4% were graduates. The study findings also revealed that majority of the policy makers (80%) had post graduate qualifications. It implied that most of the respondents were qualified to understand the nature of the problem of the study.

d) Working Experience of the Respondents

The study sought to determine how long the respondents had worked in their respective organizations to ascertain the extent to which their responses could be relied upon to make conclusions on the study problems using the working experience in the organization. The findings are presented in Figure 4.4 .

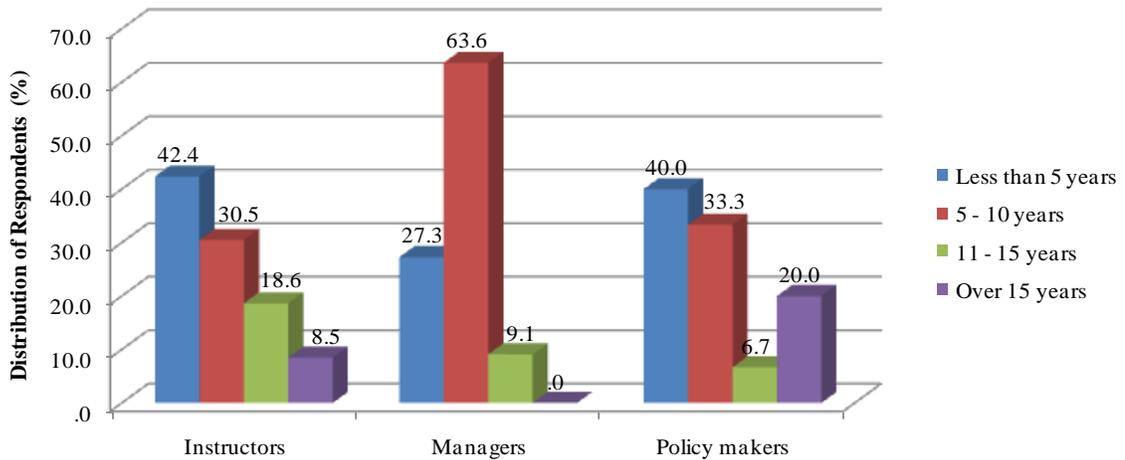


Figure 4.4: Working Experience of the Respondents

The results revealed that most of the instructors (42.4%) had been in their organizations for less than five years while 30.5% of them had been there for between 5 and 10 years. The findings also revealed that majority of the institutional managers (63.6%) had been in their organizations for between 5 and 10 years, 27.3% for less than five years while 9.1% for between 11 and 19 years. The findings further revealed that 40% of the policy makers had been in their organizations for less than five years, 33.3% between 5 and 10 years and 20% over 15 years. These findings were in line with assertion by Braxton (2008) that respondents with a higher working experience assist in providing reliable data on the study problem since they had technical experience on the problem being investigated. The findings of the study implied that 50% of the respondents had worked in their respective organizations for long and thus understood the technical issues on change management capacity and its effect on the delivery of quality of the education in technical and vocational institutions in Kenya.

4.4.2 Influence of Organizational Structure on Quality of Technical Educational Institutions

In this section the study sought to determine whether the organizational structure influenced the quality of technical educational institutions. The findings are presented in the subsequent sections.

a) Type of Structure adopted by the Institutions

The instructors and institutional managers were asked to describe the types of structures adopted by their respective organizations. The results are presented in Figure 4.5.

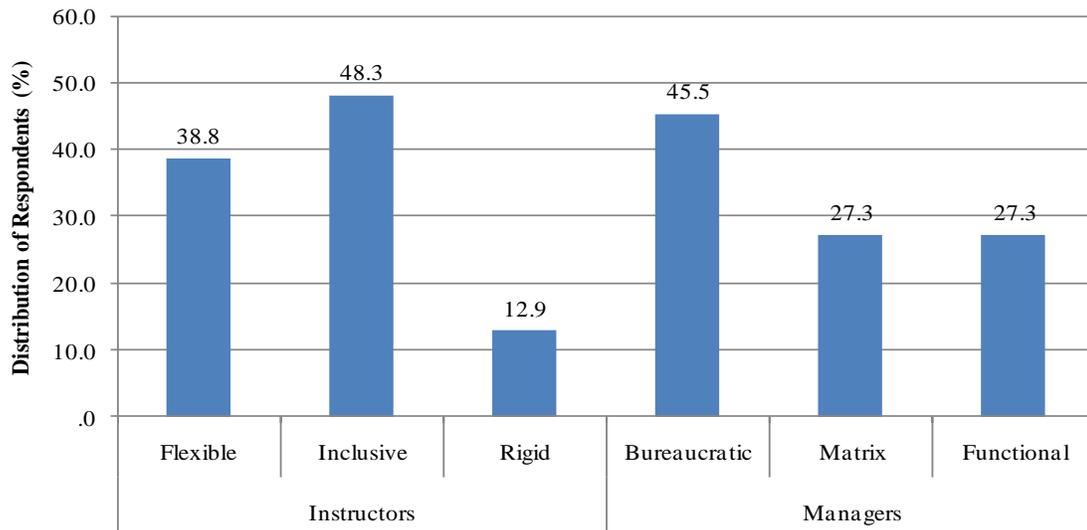


Figure 4.5: Type of Structure adopted by the Institutions

The results revealed that most of the instructors (48.3%) described the organizational structure as inclusive while 38.8% described it as flexible. The findings further indicated that most of the institutional managers described the organizational culture as bureaucratic. The results revealed that 27.3% of the respondents described suitable organization structures as matrix and functional. These findings implied that while the instructors feel that the organizations are accommodative, the managers of the institutions perceived the structure by following a laid down procedure.

b) Organization Charge a Particular Group with Change Process

The study sought to establish from the institutional managers whether the organization charged a particular group with the change process during the reforms process to ascertain whether the change process had the right structure as advocated by Moran and Bringhtman (2001) in his study of organizational change. The results were presented on Table 4.7.

Table 4.7: Organization Charge a Particular Group with Change Process

Response	Frequency	Percent
No extent	0	0.0
Small extent	0	0.0
Moderate extent	2	18.2
Large extent	6	54.5
Very large extent	3	27.3
Total	11	100

According to table 4.7, most respondents (54.5%), followed by 27.3% agreed to a large extent and very large extent respectively that the organization charged a particular group with the change process. This implied that a particular group was charged with the responsibility of change process during the reforms, thus confirming the findings of Moran and Bringtman (2001). Asked to justify their responses, the institutional managers explained that every time there was change in the organization the management charged a particular group headed by management to spearhead the change process.

c) Plan for the Implementation of Educational Reforms

Technical Institution managers were asked whether or not they planned for the implementation of educational reforms. The study results are presented on table 4.8 .

Table 4.8: Plan for the Implementation of Educational Reforms

Response	Frequency	Percent
Yes	9	81.8
No	2	18.2
Total	11	100.0

The finding on table 4.8 revealed that most Technical Institution managers (81.8%) agreed that they indeed planned for the implementation of the educational reforms, a finding which appeared to support the study by Moran and Bringtman (2001) on how to lead organizational change, organizational structure was very important for effective

change management in the organization. The study noted that the change process required that right structure is put into place as every change requires unique approach for successful execution. On the other hand, only 18.2% did not.

d) Type of Plans for implementation of Reforms in Place

The institutional managers were asked to list some of the plans that were put in place for the implementation of reforms in the institutions. This was on a scale of 1-5 ‘strongly disagree’ (1); ‘disagree’ (2); ‘neutral’ (3); ‘agree’ (4) and; ‘strongly agree’ (5). The key factors rated by the respondents were mobilization of resources, selection of team, and training of change and consultation of stakeholders. The findings are presented in Table 4.9 .

Table 4.9: Type of Plans for implementation of Reforms in Place

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std. Deviation
	(%)	(%)	(%)	(%)	(%)		
Mobilization of resources	0	0	9.1	36.4	54.5	4.45	0.688
Selecting the team to spearhead the process	0	9.1	0	45.5	45.5	4.27	0.905
Training of staff on change	0	0	9.1	45.5	45.5	4.36	0.674
Consultation with stakeholders	0	9.1	0	54.5	36.4	4.18	0.874
Average	0	4.6	4.6	45.5	45.5		

The results on table 4.9 showed that most of the Technical Institution managers (54.5%) strongly agreed that the institutions mobilized resources while 36.4% agreed that they planned for mobilization of resources. The high mean score of 4.45 shows that generally the respondents strongly agreed that mobilization of resources was part

of the plans in place for the implementation of reforms. There were no variations in responses (standard deviation ≤ 1).

The findings show that 45.5% of the Technical Institution managers strongly agreed that the organization had plans for selecting teams to spearhead the reforms process. The same proportion of the managers agreed that plans were in place for the selection of the reforms team. The mean score of 4.27 showed that generally the respondents strongly agreed that the institution management plan the selection of team to spearhead the reforms process. There were no variations in responses (standard deviation ≤ 1).

The study findings further revealed that the Technical Institution managers who agreed and strongly agreed with the statement that institutions planned for the training of staff on change were equal, each at 45.5%. The mean score of 4.36 meant that respondents strongly agreed that the management planned for the training of staff. There were no variations in responses (standard deviation ≤ 1).

Furthermore, most of the Technical Institution managers (54.5%) agreed that the institutions planed consultation with the stakeholders while 36.4% strongly agreed with the statement that the institution planned for consultation with stakeholders. The findings mean score of 4.18 meant that respondents strongly agreed that the management planned consultation with stakeholders. There were no variations in the responses (standard deviation 1).

e) Whether Institutional Managers gave other Staff Opportunity to Participate in Change Process

The study sought to determine the extent to which the institutional managers were inclusive in the management of the change process by involving other staff. The results are presented in Figure 4.6 .

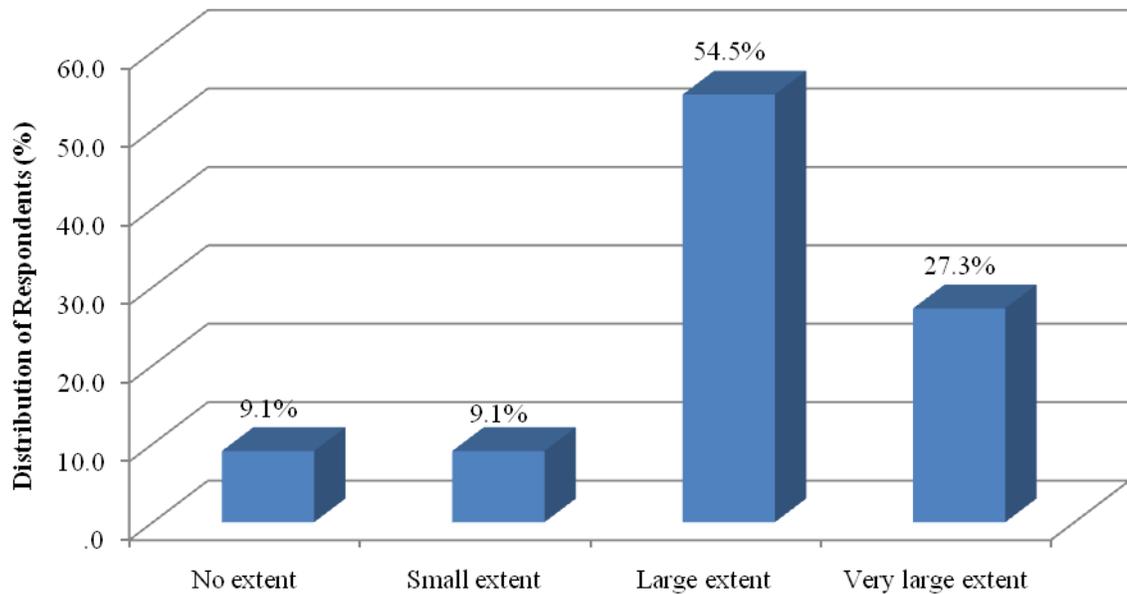


Figure 4.6: Institutional Managers give other Staff Opportunity to Participate in Change Process

According to figure 4.6 , most of the Technical Institution managers (54.5%) indicated that to a large extent the institution management gave other staff the opportunity to participate in the change process. Further, 27.3% of them indicated that the management to a very large extent offered other staff the opportunity to participate in the change process. These findings implied that the management were to a large extent inclusive enough to allow other staff to participate in the change process which supported the views of Kotter (2007) regarding participation of everyone in the change process.

f) In-charge of Change Process in the Organization

The institution managers were asked to state the person responsible for the change process in the organization. The results are presented in Figure 4.7 .

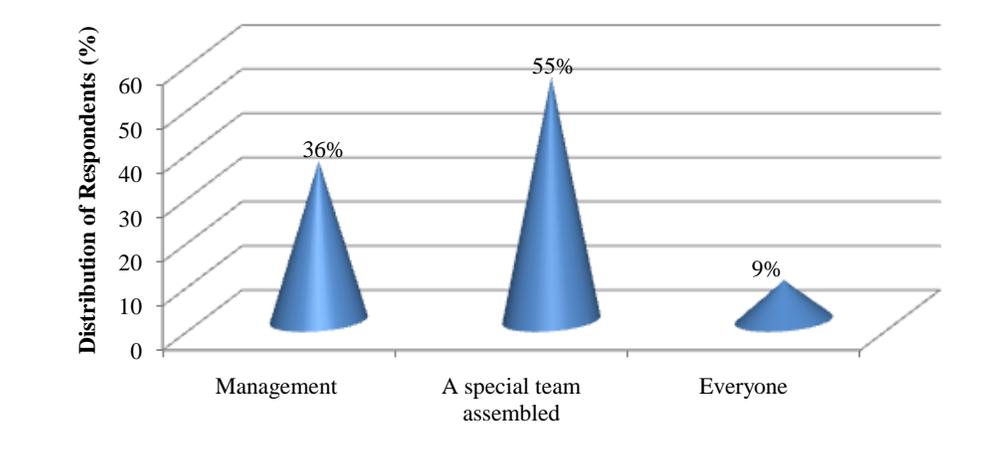


Figure 4.7: In-charge of Change Process in the Organization

According to figure 4.8, most institution managers (55%) felt that a special team assembled to oversee the change process was responsible for the change process while 36% indicated that the management was responsible for the change process in the institutions. These findings meant that the change steering team was responsible for the change process in most of the institutions. In other organizations, the managers were responsible for the change process (36%).

g) Existence of Co-ordination in Reforms Process by Management and Instructors

The study sought to determine whether there was coordination in the reforms between the management and the instructors as advocated by Al-Mashari and Zairi (2000) that the success of reforms required proper coordination between the management and the staff. The results are presented in Figure 4.8.

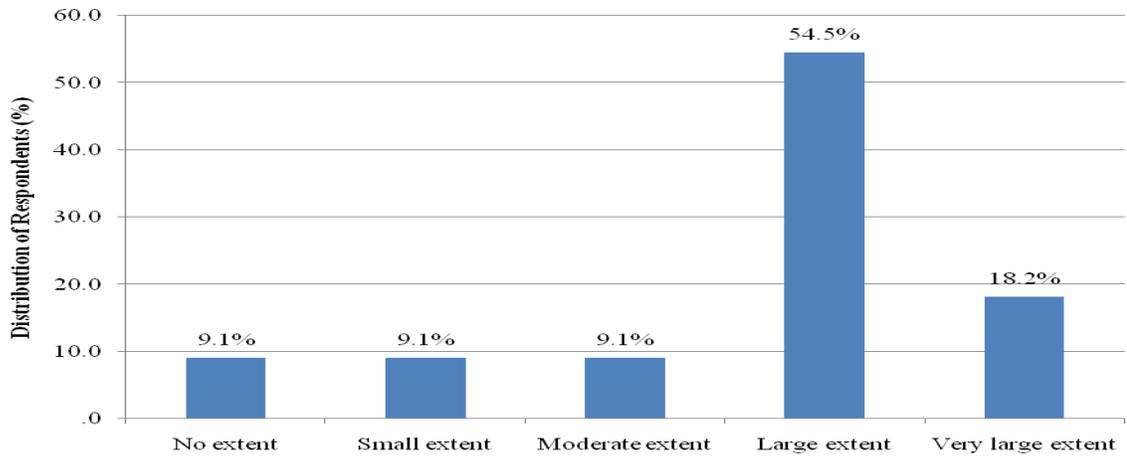


Figure 4.8: Existence of Co-ordination in Reforms Process by Management and Instructors

The results revealed that according to most of the institution managers (54.5%) there was, to large extent, coordination in the reforms process between the management and the staff, while 18.2% responded to a very large extent on the same. The findings therefore meant that there was coordination between the management and the instructors in the reforms process.

h) Management Flexible in Accepting the Views of other Staff

The institution managers were asked to state whether the management was flexible in incorporating the views of other staff in the implementation of reforms in the organization to ascertain the inclusivity of the management on the change process as recommended by Tavitiyaman, Zhang, & Qu, (2012) that for greater outcome of the reforms process, organizations should adopt a flexible structure to encourage greater staff participation in the reforms process. Figure 4.9 illustrates the findings.

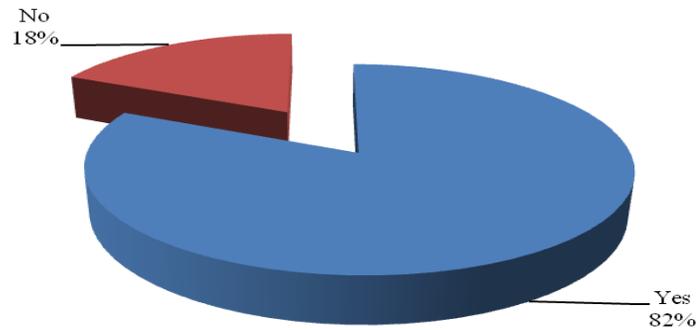


Figure 4.9: Management Flexible in Accepting the Views of other Staff

According to figure 4.9 , majority of the managers (82%) indicated that indeed the management was flexible in incorporating the views of other staff in the implementation of reforms in the organization, while only 18% responded in the contrary. The findings meant that the management exercised inclusiveness in the reforms process as every person’s views were welcomed.

Asked to justify their 'Yes' responses, the managers explained that the management embraced diverse opinions for proper implementation of the reforms in the organization. Two out of the eleven (18.2%) institution managers stated that they usually considered the views of the instructors as paramount in the change process for the successful implementation of the reforms. However, according to two other respondents, the implementation of the reforms was the duty of the management as the other staffs were only to take instructions from the management on what to do. They went further to argue that allowing for divergent views caused confusion and lead to failure of the process.

i) Effect of Organizational Structure on Management of Reforms

The study sought to determine the extent to which the organizational structure had influenced the management of the reforms process in the technical education institutions. The instructors were asked to state the extent to which they agreed with the statements regarding the influence of organizational structure and the management of the reforms process. This was on the scale of strongly disagree (1), disagree (2),

neutral (3), agree (4) and strongly agree (5). The factors tested were responsibility of management, team to oversee reforms, involvement of management, treatment of employees, and the quality of training. The findings are presented in Table 4.10 .

Table 4.10: Effect of Organizational Structure on Management of Reform Process

	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)	Mean	Std. Dev
Management is responsible for the management of the changes in the institution.	0	3.0	10.0	23.4	63.7	4.48	.794
Always a team in place to oversee the new reforms.	1.5	9.0	21.4	39.3	28.9	3.85	.989
Organization management is accommodative.	1.0	4.5	49.8	31.8	12.9	3.51	.813
All employees treated equally in implementation of reforms.	1.0	29.9	37.8	15.4	15.9	3.15	1.054
Quality of training attributed to flexible organization structure.	2.0	3.5	35.8	19.9	38.8	3.90	1.030
Average	1.1	10.0	30.9	26.0	32.0		

The results showed that majority of the instructors (63.7%) strongly agreed that the management were responsible for the management of the changes in the institutions while 23.4% agreed. Those neutral constituted only 10 % while none disagreed. The

findings mean according to majority of the respondents, the management was responsible for the change process in the institutions. The findings also showed a high mean score implying that on average the respondents strongly agreed that the management was responsible for the change in the institutions. There were no variances in the responses (standard deviations ≤ 1).

The findings show that 39.3% of the instructors agreed that always there was a team in place to oversee the new reforms while 28.9% strongly agreed. The findings meant that the institutions assembled teams to oversee the reform processes whenever there were proposed reforms to be effected. These findings confirmed earlier findings by the management that the organizations had special group charged with implementation of reforms. There were no variances in the responses (standard deviation ≤ 1).

The results showed that 31.8% of the respondents agreed that the organization management was accommodative while 12.9% strongly agreed. The findings also show that the mean score of 3.51 meant that the respondents generally agreed that the organization management was accommodative. These findings confirmed those of the management who indicated that they gave the other staff opportunity to participate in the reforms process. There were no variances in the responses (standard deviation ≤ 1).

As to whether all the employees were treated equally in the implementation of reforms, 29.9% disagreed with the statements that all the employees were treated equally in the implementation of reforms. On the other hand, those who agreed and strongly agreed with the statement were equal, each at 15.9%. Even though the mean score was 3.15, the score was not as high. This implied that slightly more than half of the respondents agreed that all the employees were treated equally when it came to the implementation of the reforms. There were variances in the responses (standard deviation ≥ 1).

On whether the quality of the training was attributed to flexibility in the organizational structure, 38.8% and 19.9% of the respondents strongly agreed and agreed respectively

that the quality training was attributed to flexible organization structure. Hence, with a mean score of 3.90, the respondents generally agreed that the quality of training was attributed to the flexible organization structure.

j) Influence Organizational Structure on Reforms Process

The institutional managers were asked to state the extent to which the organizational structure had influenced the success of the reforms process which led to enhanced quality of education. Figure 4.10 shows the findings.

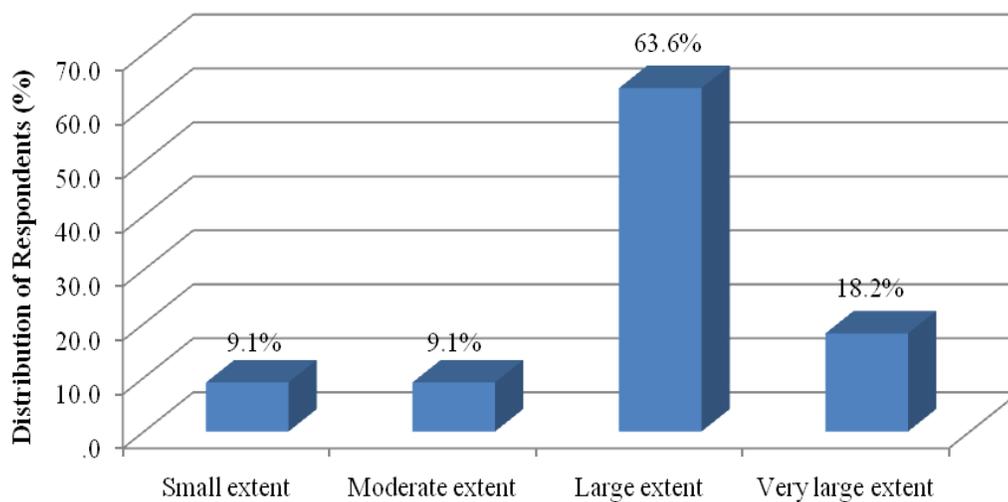


Figure 4.10: Influence of Organizational Structure on Reforms Process

The findings revealed that majority of the institutional managers (63.6%) indicated that the organization structure influenced the reforms in the institutions to a large extent while 18.2% of the respondents indicated that the structure influenced the reforms process to a very large extent. The findings mean that the organization structure influenced the reforms process in the organizations to a very large extent.

The institutional managers were asked to state how the organizational structure had influenced the quality of education in the institutions. The respondents explained that the structure should be in such a way that it will enhance the implementation of change. They stated that change process or reforms process at all time require restructuring. The restructuring process aligned the organization for the adoption of the reforms.

These findings supported the views of Hrebiniak (2006) that the overreaching issues that impede change in the organization was the organizational structure. This implied that the organizational structure determined the success of the reforms process of which Hrebiniak (2006) explained that the change process were behavioral in nature and therefore the way the organization was structured for the implementation of any reform was very important. The findings also support the views of Enz (2008) and Tarigan (2005) that there exists a significant relationship between organizational structure and the organization performance. The findings therefore meant that organizational structure is a strong predictor of the quality of education.

4.4.3 Influence of Leadership Styles on Quality of Technical Educational Institutions

In this section the study sought to determine whether the leadership style influenced the reforms process in the technical educational institutions and whether this enhanced the quality of education. The findings are presented in the subsections that follow.

a) Instructors Description of the Principal

To ascertain the kind of leader the principals were, the instructors were asked to describe the principals. The findings are presented in Figure 4.11.

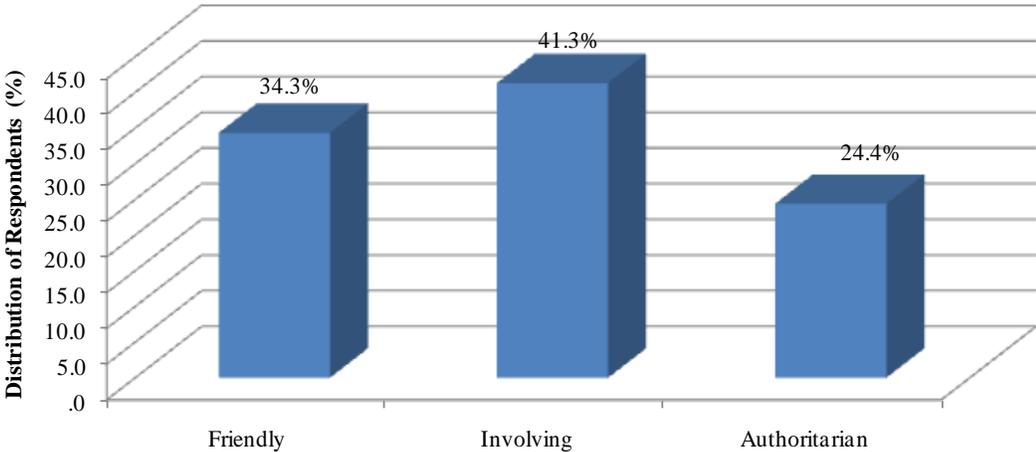


Figure 4.11: Instructors Description of the Principal

The results show that according to 41.3% of the instructors the principals were involving. While 34.3% of the respondents described the principals as friendly.

However, 24.4% of the respondents described their principals as authoritarian. This meant that most principals were accommodative and approachable except for a few which confirm the views of Hannah, Ball, Lorenzi, Ash, Eindbinder & McPhee (2005) who in their study noted that the employees perception of the leadership as supportive, concerned and committed to their welfare goes a long way in enhancing change process in the organization.

b) Top Management's Involvement in Change Process

The study sought to establish from instructors whether the top management was involved in the change processes in the institutions. This was to ascertain whether the top management was committed to the success of the reforms as advocated by Noer (1997) who stated that the leader as a person is the most important tool for effective change in the organization. The results are presented in Figure 4.12.

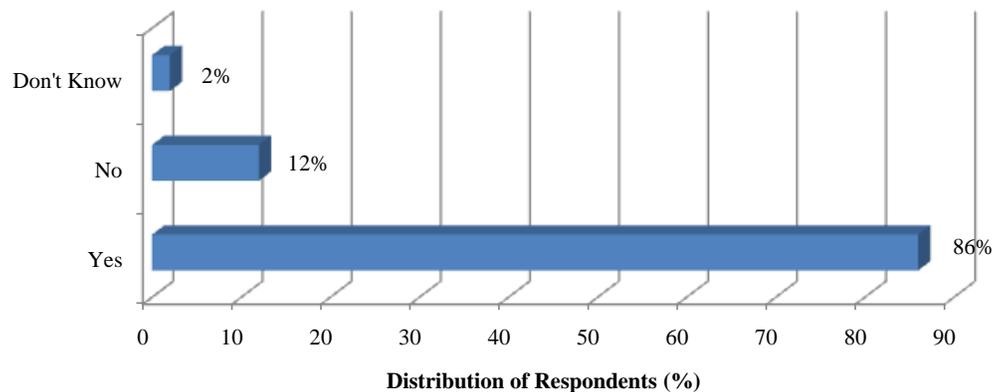


Figure 4.12: Top Management's Involvement in Change Process

The results show that majority of the respondents (86%) indicated that indeed, the top management was involved in the change process in the institutions. Only 12% had a contrary opinion while two percent did not know. The findings mean that the top management was involved in the change process in the technical educational institutions. The findings therefore confirmed the views of Noer (1997) that the leaders are the most important tool for change. The findings also supported the views by

O'Reilly et al (2010) that participatory leadership plays an important role in growing inner capabilities and priorities for the success of change in the organization.

c) Areas of involvement in implementation of Reforms by Top Management

To ascertain the level of involvement of the top management in the implementation of the reforms, the instructors were asked to state the areas of involvement of the top management. The findings are presented in Figure 4.13 .

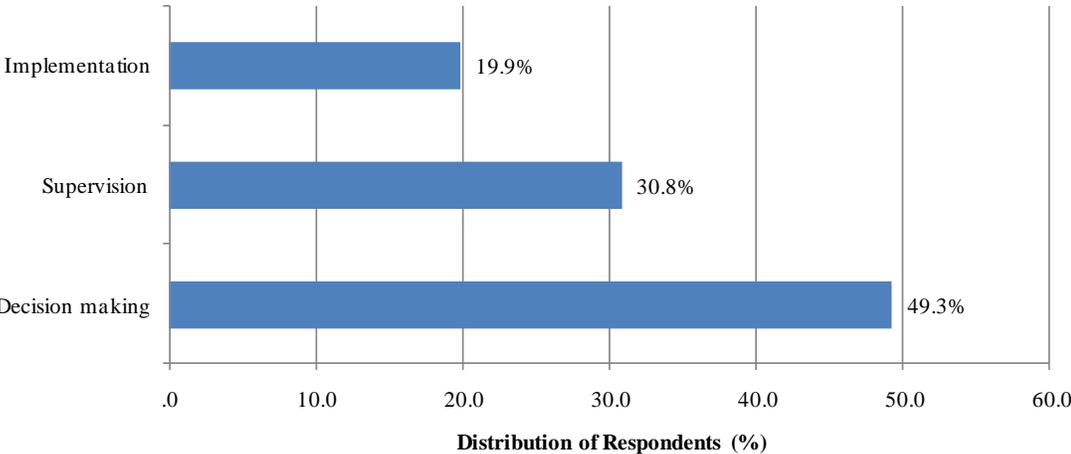


Figure 4.13: Areas of involvement in implementation of Reforms by Top Management

The results showed that most of the top management (49.3%) were involved in the decision making and supervision (30.8%).

Asked to explain their answers, respondents stated that the management held consultative meetings with various stakeholders on the implementation of the reforms. The respondents also indicated that through restructuring, the top management put up teams which spearheaded the reforms processes in the institutions. They further explained that the management monitored closely how the reform process was progressing demanding regular reports from the implementing teams. These findings meant that the top management of the institutions were providing leadership in the implementation of the reforms as recommended by Bainbridge (1996) who argued that

the creation and design of change processes within an organization is most often a role of the leaders within it.

d) Extent Leadership Provide Support to its Staff

The instructors were asked to state the extent to which the leadership provided them with support in their assignments to ascertain whether there was a team effort in the change process as advocated by Kotter (2007) that leadership is a team effort of a variety of individual input. The results are presented in Figure 4.14 .

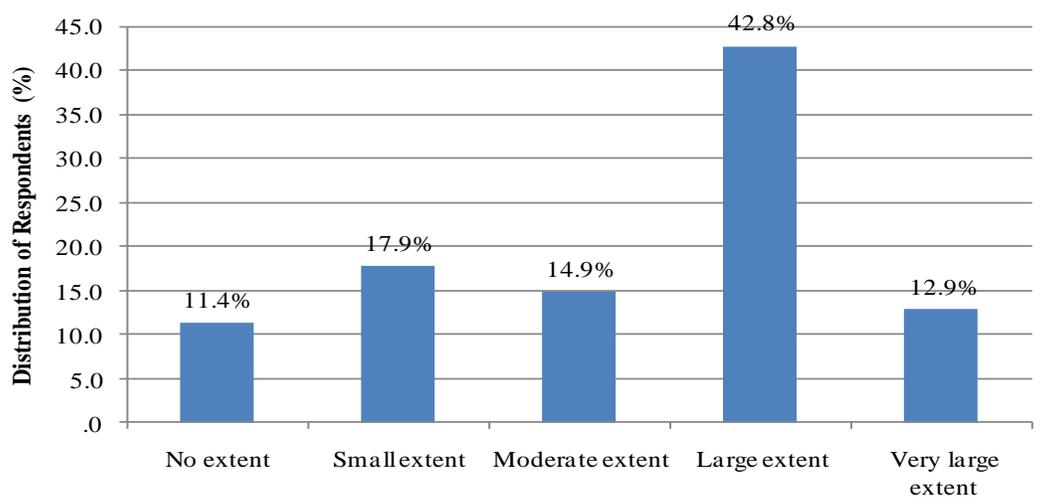


Figure 4.14: Extent Leadership Provide Support to its Staff

The results showed that most of the instructors (42.8%) indicated that the leadership supported them in their assignments to a large extent while 12.9% of the respondents stated that they were assisted in their assignments. The findings meant that in most of the technical educational institutions, the leadership encouraged teamwork in the change process.

e) Leadership taking Lead in the Change Process

The instructors were asked to state the extent to which the institution leadership took lead of the change process in accordance with Bainbridge (1996) view that the leadership should take leadership by designing change process within the organization. Figure 4.15 show the findings.

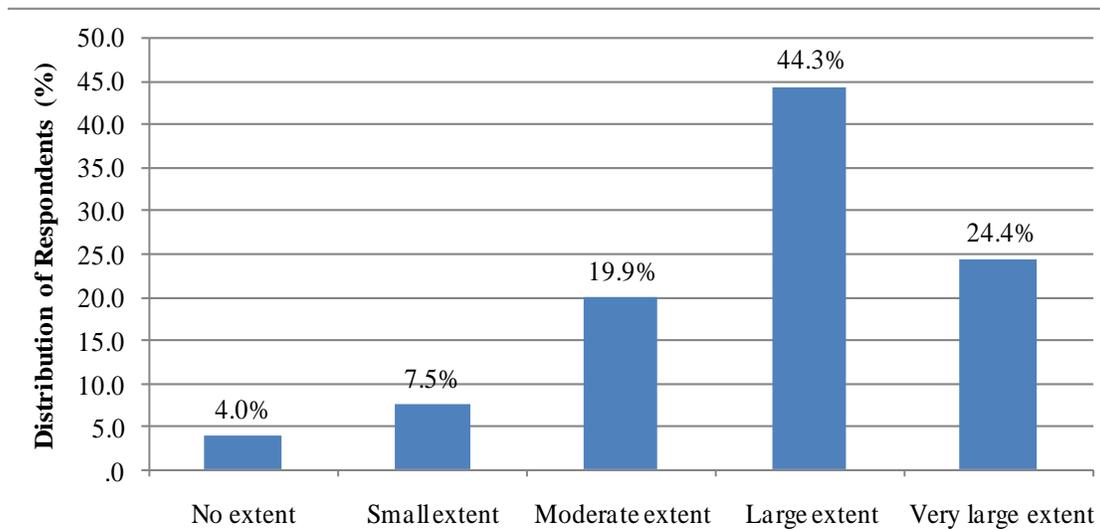


Figure 4.15: Leadership taking Lead in the Change Process

The findings showed that most of the instructors (44.3%) stated that the leadership took lead of the change process to a large extent. The findings also showed that 24.4% of the respondents indicated that the leadership tool lead to a very large extent. The results therefore meant that the leadership of the institutions was in the front line of the change process in the institutions.

f) Leadership and Management

The instructors were asked to state the level of agreement with the influence of leadership style on the change process in the technical educational institutions. This was on the scale of strongly disagree, disagree, neutral, agree and strongly agree. The factors rated included principals’ involvement, adherence to rules, principals giving instructions and freedom to staff. The study findings are presented in Table 4.14

Table 4.11: Leadership and Management

	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)	Mean	Std. Dev
Principals involve staff in decision making	.0	12.9	15.4	33.3	38.3	3.97	1.029
Rules followed strictly in the process	2.0	19.9	23.9	37.8	16.4	3.47	1.049
Principal does not involve staff but leave process to take course	19.4	44.8	9.0	22.9	4.0	2.47	1.158
Principal gives orders on what is to be done at every stage of change process	2.0	8.5	47.3	17.9	24.4	3.52	1.006
Staff is free to do what they think is right	20.4	43.3	5.5	19.4	11.4	2.59	1.325
Average	8.8	25.9	20.2	26.3	18.9		

The findings showed that 33.3% of the respondents agreed that the principals' were involved in the staff in decision making while the 38.3% of the respondents strongly agreed that the principals involved staff in decision making. The mean score value of 3.97 implied that generally the principals involved the other staff in decision making. There were variances in the responses (standard deviation ≥ 1).

As to whether the rules were followed strictly in the process of change, the findings show that 37.8% of the respondents agreed that the rules were followed strictly while 16.4% strongly agreed that the rules were strictly followed. The mean score of 3.47 meant that the respondents generally agreed that the rules were strictly followed. There were variances in the responses (standard deviation ≥ 1).

On whether the principal gave orders on what or did not involve staff in the process or left the process to take its course, the findings show that most of the respondents (44.8%) disagreed with the statement that the principal does not involve staff but leave process to take course. The findings show that 22.9% of the respondents agreed that the principal does not involve staff but leave process to take course. The mean score of 2.47 mean that the respondents did not agree with the statement which implied that the principals gave direction of what needs to take place. There were variances in the responses (standard deviation ≥ 1).

As to whether the principal gave orders on what was to be done at every stage of change process, the findings show that most of the respondents (47.3%) remained neutral. However, 24.4% of the respondents strongly agreed that the principals gave orders on what to be done at every stage of change process. The mean score of 3.52 meant that generally the respondents agreed that the principals gave orders on what to be done at every stage of the change process. The findings therefore mean that the principals were in charge of the change process. There were variances in the responses (standard deviation ≥ 1).

g) Extent Leadership has Influenced Quality of Education

The study sought to determine from the instructors the extent to which the leadership had influenced the quality of education in the technical educational institutions. The findings are presented in Figure 4.16.

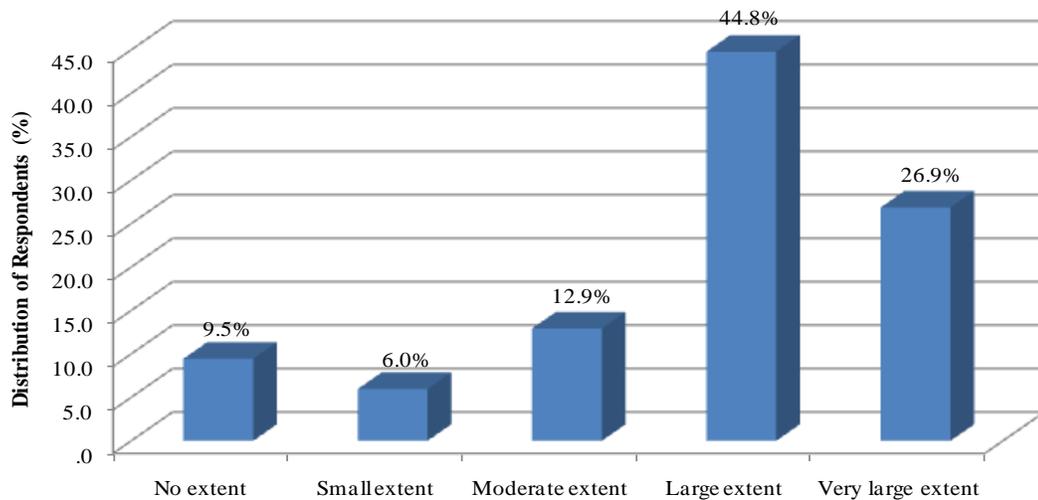


Figure 4.16: Extent Leadership has Influenced Quality of Education

The findings showed that most of the respondents (44.8%) indicated that the leadership style to a large extent influenced the implementation of change in the institutions which in turn enhanced the quality of education in the institution. The result further show that 26.7% of the respondents indicated that leadership style to a very large extent influenced the implementation of change and hence the quality of education in the technical education institutions.

When asked to explain how the leadership had influenced the implementation of changes in the institutions, the respondents stated that the kind of leadership determined whether the employees would cooperate during the implementation of the reforms. Three respondents also indicated that the leader who is in charge of the process will ensure that the reforms are implemented effectively thereby enhancing the quality of education in the institutions. Two instructors indicated that where the leader consulted with other staff or the leadership was inclusive, there was a collective responsibility in the change process and therefore enhanced the quality of education.

The respondents further explained that the leadership style of the principal had negatively influenced the quality of education in the institutions as the employees had

become resistant to the reforms and therefore the process of change in most cases did not succeed which in turn have led to the low quality of education. From these findings of the study, it became evident that the leadership style of the principals of the technical educational institutions in Kenya influenced the quality of education as they determined the success of the change process or its failure as argued by Bainbridge (1996) that the creation and design the success of change processes within an organization is most often a role of the leaders within it.

4.4.4 Competence of Policy Makers Influence the Quality of Technical Educational Institutions

In this section the researcher sought to determine whether the competence of the policy makers in the change process had effect on the quality of education in the technical educational institutions in Kenya. The findings are presented in the subsequent sections

a) Policy Makers response on extent they Consult Stakeholders during Policy Making

The policy makers were asked to state the extent to which they consulted stakeholders during the process of policy making to ascertain whether the policy making process was consultative. The findings are presented in Figure 4.17 .

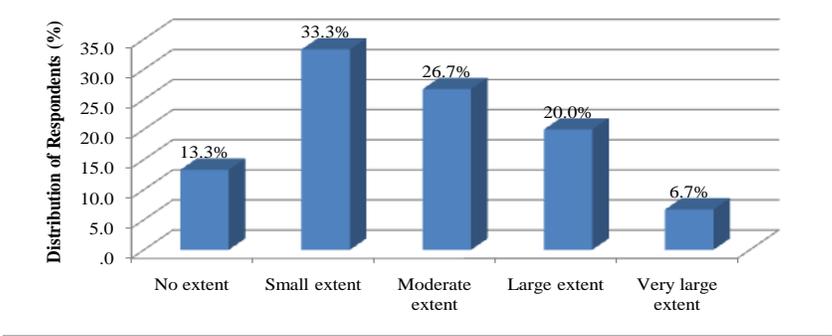


Figure 4.17: Extent Stakeholders Consulted during Policy Making

The findings showed that 33.3% of the respondents indicated that they consulted stakeholders during the policy making process to a small extent while 13.3% of the respondents stated that they consulted to no extent. The findings further showed that 26.7% of the respondents indicated that they only consulted to a moderate extent. These findings were interpreted to mean that the policy makers consulted the stakeholders during the policy making process only minimally.

b) Institutional Managers Consulted during Planning of Reforms

The institution managers were asked to state whether they were consulted during the planning for the reforms in the sector to ascertain whether the planning for the change was inclusive in the planning process as was advocated by Sifuna and Otiende (2009). The findings are presented in Figure 4.18.

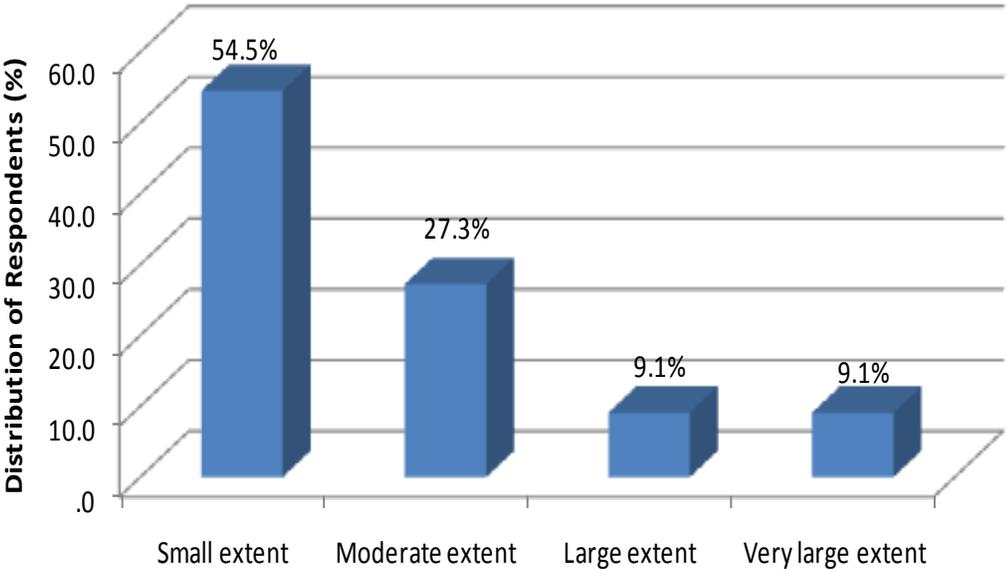


Figure 4: 18 Institutional Managers responses on whether Managers were consulted during planning of Reforms

It was established that most of the respondents (54.5%) stated that the institutional managers were to a small extent consulted during the planning for the reforms in the sector. Those consulted to a moderate extent constituted 27.3%. These findings meant that very minimal consultation was done with the institution managers during the planning of the reforms in the sector which could be the reason for resistance by the

institutional managers to the reforms hence failure of the reforms processes in the institutions. The failure of the reforms process could also be because the institutional managers are ignorant of what the reforms entail since they were not consulted and the reforms are only being imposed on them by the policy makers.

c) Areas of Consultation

The institution managers were asked to state the areas where they were consulted. The findings are presented in Table 4.12.

Table 4.12: Areas of Consultation

	Frequency	Percent
What should be in the policy	1	9.1
Areas of reforms	3	27.3
No Response	7	63.6
Total	11	100.0

The findings showed that majority of the institution managers (63.6%) did not respond to the question which is attributed to the earlier answer that they were only consulted to a small extent. The results however showed that 27.3% indicated that they were consulted in the areas of reforms while 9.1% indicated that they were consulted what should be in the policy.

d) Policy Makers response on Data Gathering during Policy Making Process

The respondents were asked to state whether they gathered data during the policy making process. The findings are presented in Figure 4.19.

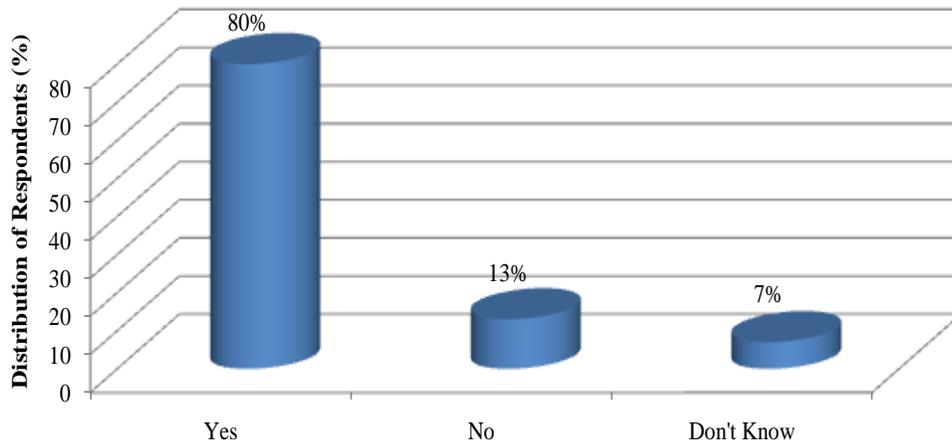


Figure 4.19: Data Gathering during Policy Making Process

The findings show that majority of the respondents (80%) stated that they gathered the data during the policy making process. The findings meant that data was collected during the policy making process.

e) Influence of Competence of Policy Makers on Change Process

The institution managers were asked to state whether the change process was influenced by the competence of the policy makers. The findings are presented in Figure 4.20.

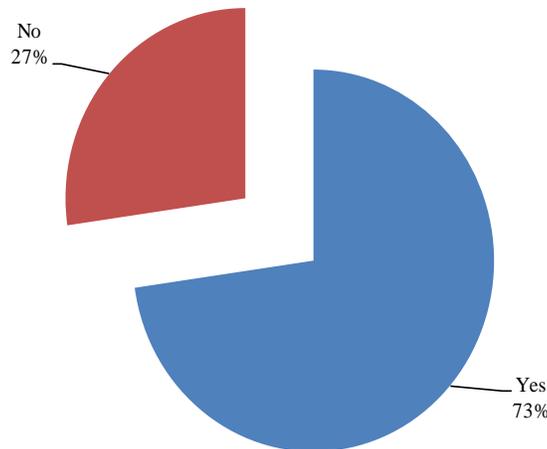


Figure 4.20: Influence of Competence of Policy Makers on Change Process

The study findings show that majority of the institutional managers (73%) agreed that indeed the competence of the policy makers influenced the change process in the

institutions. These findings mean that the competence of the policy makers has been important for the success of the reforms in the technical educational institutions.

Asked to state how the competence of the policy makers had influenced the reforms process in the institutions, 45.5% of them indicated that the policy makers were able to consult widely with the stakeholders during the policy making process while 36.4% of them indicated that the policy makers ensured that the stakeholders in the reforms were educated on the reforms.

The respondents explained that because they never understood the policy due to lack of consultation by the policy makers, it was difficult to implement the reforms in the sector. The respondents also indicated that because the reforms were imposed on the managers, they did not own up the process and therefore the resistance in the implementation in most of the reforms proposed by the policy makers. That is to say, there is a gap between the policy makers and the implementers who are the institutional managers.

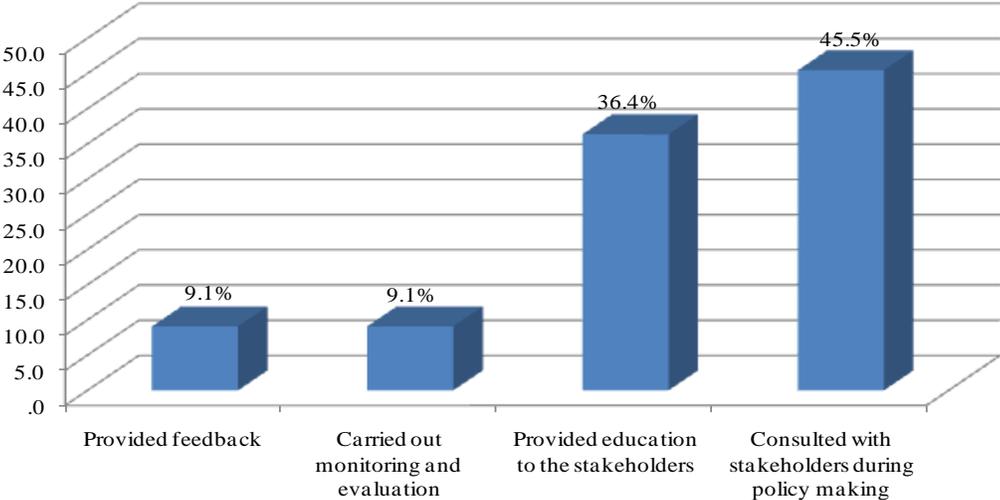


Figure 4.21: Influence of Competence of Policy Makers on Reforms Process

f) Level of Influence of Policy Makers Competence on Quality of Technical Education

The institutional managers were asked to state the extent to which the policy makers’ competence in reforms process had influenced the quality of education in the technical education institutions. The findings are presented in Figure 4.22 .

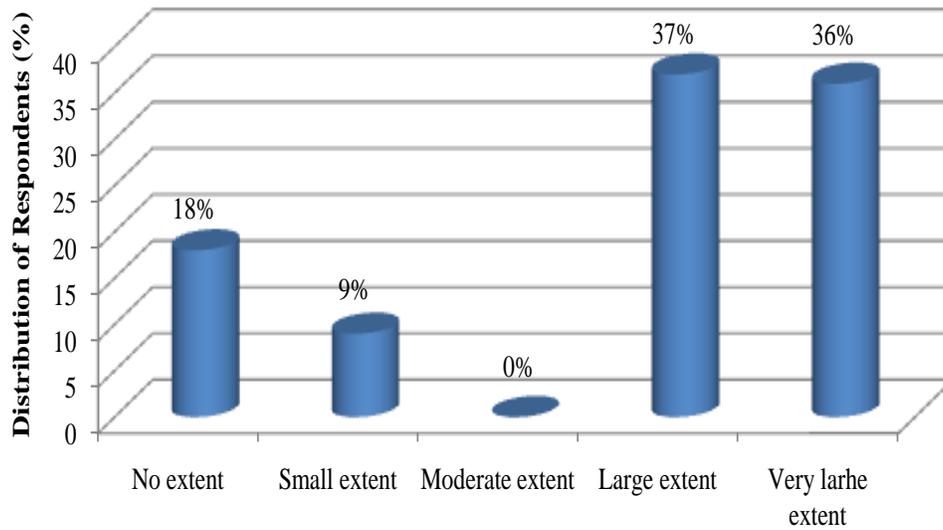


Figure 4.22: Level of Influence of Policy Makers Competence on Quality of Technical Education

It was established that 37% of the institutional managers indicated that the policy makers competence in reforms process had influenced the quality of education to a large extent in the technical educational institutions while according to 36% of the respondents, it influenced the quality of education to a very large extent. The findings meant that the competence of the policy makers in reforms process to a large extent influenced the quality of education in the technical educational institutions which supports the views of Boyatzis *et al.*, (1996) that the competence of the policy makers is key to the success of the reforms process which would in turn impact on the quality of education.

Asked to explain how the competence of the policy makers had influenced the quality of education, the institutional managers said that competence through the skills would ensure that the policies that are made are good and go a long way in enhancing the quality of education in the technical educational institutions. The respondents further said that if the policy makers consulted all the stakeholders during the planning stage of the reforms process, the outcome of the reforms would be good and achieve the goal of the reform which is the enhancement of the quality of education. These findings support the views of Sifuna and Otiende (2009) who blamed the failure in educational reforms on hurried implementation disregarding careful study and planning for process of change.

4.4.5 Effect of Training of Instructors on Quality of Technical Educational Institutions

In this section the study sought to determine the moderating effect of training of instructors on the quality of technical educational institutions to ascertain how the training of the instructor influenced the quality of technical educational institutions. The findings are presented in the subsequent sections.

a) Policy Makers Response on Extent they have attended Training on Policy Formulation

The policy makers were asked to state the extent to which they had attended training on the policy formulation to ascertain whether they had acquired the skills in policy formulation. The findings are presented in Figure 4.23 .

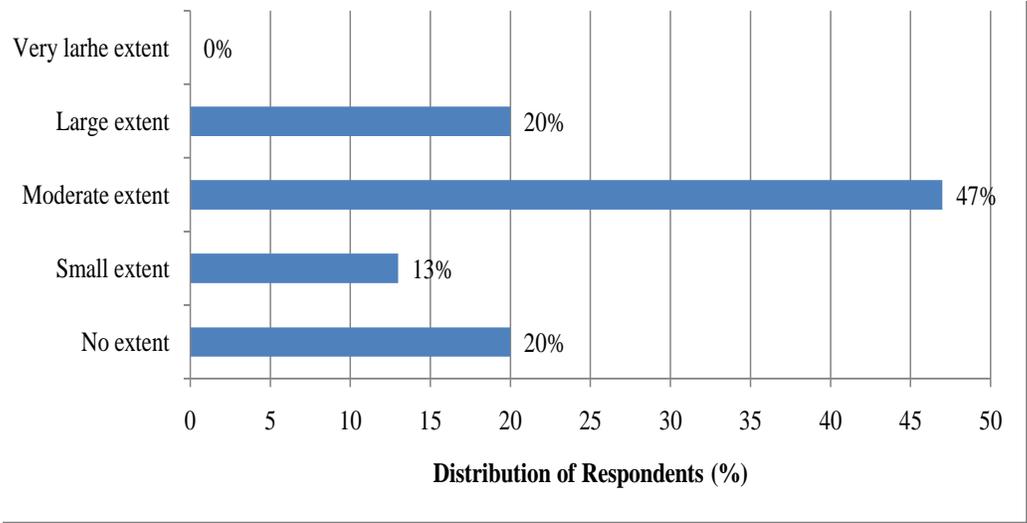


Figure 4.23: Policy Makers Response on Extent they have attended Training on Policy Formulation

The findings show that 47% of the respondents stated that to a moderate extent, they have attended trainings on policy formulation. The findings further show that 20% of the respondents indicated that to a large extent, they have attended trainings on policy formulation. These findings mean that the policy makers have attended trainings in

policy formulation to some extent. The findings that the policy makers have acquired skills in policy formulation through training agree with Boyatzis *et al* (1996) that core competencies are gained through information gathering, opinion seeking and training which are important for the effectiveness of change management in the organization.

b) Duration of the Training

The policy makers were asked to state how long the training on policy formulation took. The findings are presented in Figure 4.24.

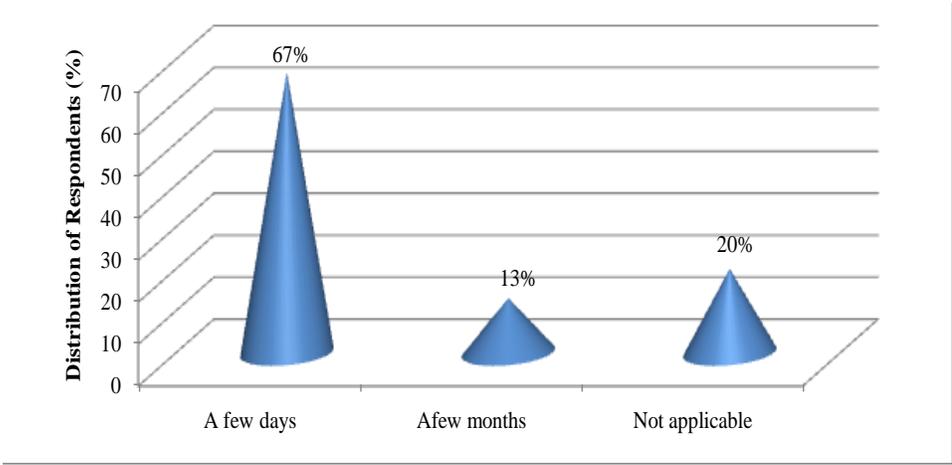


Figure 4.24: Duration of the Training

According to majority of the respondents (67%) the training on policy formulation took just a few days. The results show that according to 13% of the policy makers, the training took a few months. The findings mean that the respondents had been getting short course trainings on policy formulation which support the views of Barker (1998) that training was essential element in change because it enhanced knowledge and skills of the employees.

c) Policy Makers' Response on the Level of Training

The policy makers were asked to state the level of training. The findings of the study are presented in Figure 4.25

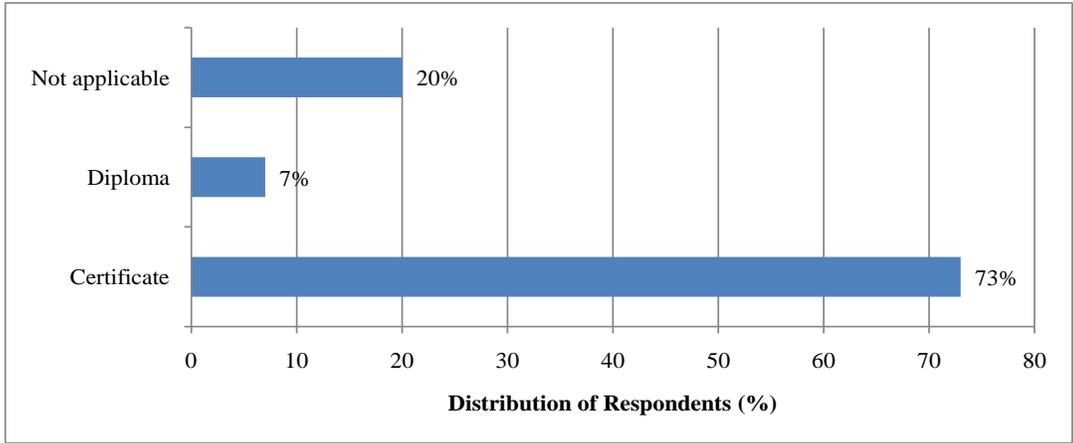


Figure 4.25: Level of Training

The results showed that majority of the respondents (73%) stated that the trainings were at certificate levels. It was established that 7% of the respondents stated that the trainings were diplomas. The findings mean that the training is important for policy makers which contradict Barker (1998) who argued that most organizations avoid training due to the amount of efforts and resources involved.

d) Managers received Training on Implementation of Reforms

The study sought to establish whether the managers had received training on the implementation of the reforms to ascertain the effect of training on the reforms process. The findings are presented in Figure 4.26.

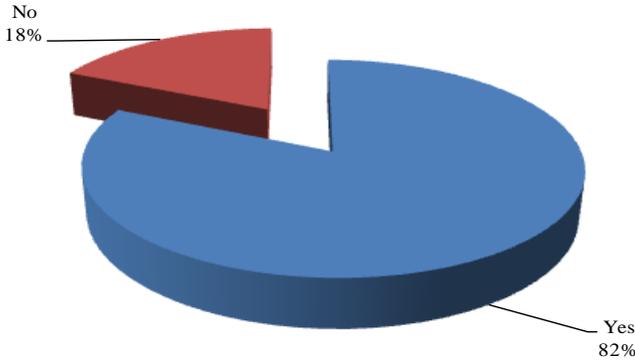


Figure 4.26 Received Training on Implementation of Reforms

From figure 4.25, majority of the institution managers (82%) indeed received training on the implementation of the reforms in the sector. The findings therefore implied that the institutional managers were given training on the implementation of the reforms. The results support the views of Lanning (1996) that the main objective of training is to increase both the employees' willingness for change and their understanding of the organizational development.

e) Duration of the Training

The respondents were asked to state the duration of training. The findings are presented in Figure 4.27.

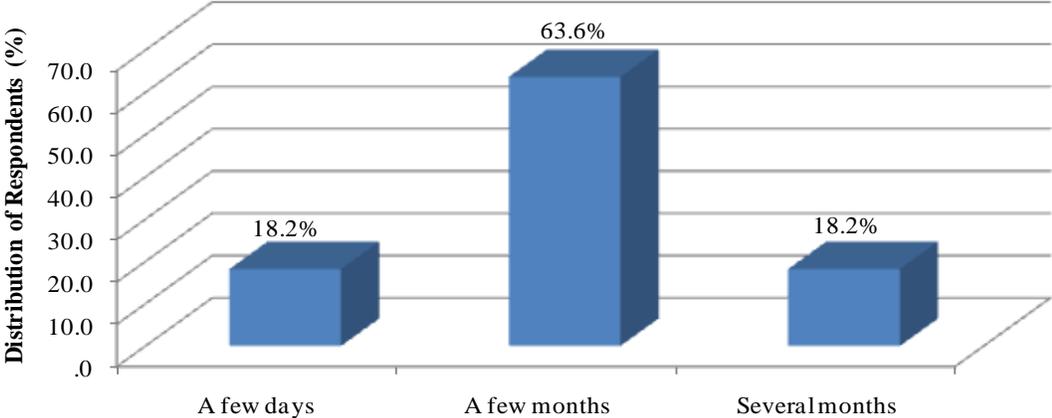


Figure 4.27: Institutional Managers Response on Duration of the Training

According to the findings presented on figure 4.26, most of the managers (63.6%) received training on the implementation of reforms for a few months while 18.2% were trained for a few days and several months. The study findings mean that the respondents took adequate time in training which supports Denton's (1996) argument that training was an essential element in change as it enhances knowledge and skills.

f) Organization Offered Training to its Employees on Desired Change

The institution managers were asked to state whether the organizations offered training to its employees for the implementation of the desired change. This was to ascertain whether the training offered was towards achieving the desired change. The findings are presented in Figure 4.28 .

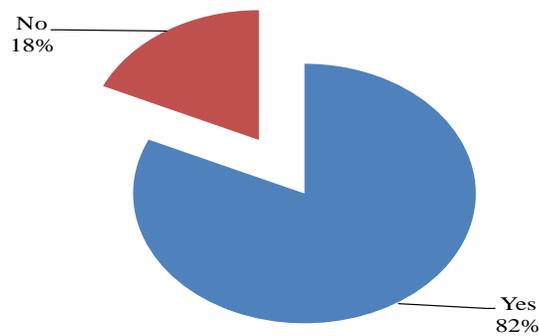


Figure 4.28: Organization Offered Training to its Employees on Desired Change

From the findings on figure 4.27, majority of the institution managers (82%) stated that indeed the employees were offered training on the desired change. The findings meant that the employees were given training on the desired change. The results are in agreement with Denton (1996) view that training assist the employees to perform their new tasks effectively.

g) Areas of Training

The study sought from the institution managers to determine the areas of training given to the employees. The findings are presented in Table 4.13 .

Table 4.13: Institutional Managers Response on Areas of Training

	Frequency	Percent
Strategy to effect the reforms	8	72.7
How to manage the employees during change	3	27.3
Total	11	100.0

From table 4.22, majority of the respondents (72.7%) stated that the employees were trained on the strategies to implement the reforms while 27.3% of the respondents stated that the training was on how to manage the employees during change. The results mean that the training was mainly on the effective implementation of the change process in the institutions.

h) Institution Managers Require Skills for Effective Implementation of Reforms

The study sought to determine whether the institutional managers had the required skills for the effective implementation of reforms in the institutions. The findings are presented in Figure 4.29.

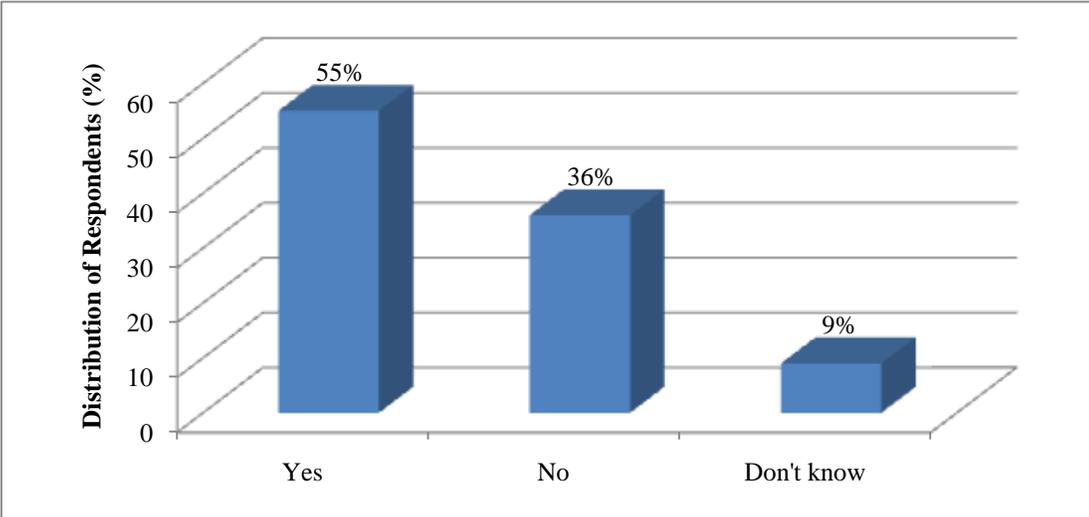


Figure 4.29: Institution Managers Require Skills for Effective Implementation of Reforms

Figure 4.28 reveals that most of the institution managers (55%) indeed had the skills for effective implementation of the reforms. However, the results show that 36% of the respondents indicated that they did not have the skills. The findings meant that even though most institutional managers had the skills, more than a third of the managers had no skills for effective implementation of the reforms. The findings that the respondents received short course training agreed with Kroehnert (1995) that training seminars bring direct benefits to the business which enhances the performance. The findings also agree with Emojong (2004) that in-service training programs had immense significance on the performance of employees at work.

i) Training of Policy Makers Enhanced Policy Making Skills

The policy makers were asked to state the extent to which the training had enhanced their policy making skills. The results are presented in Figure 4.30.

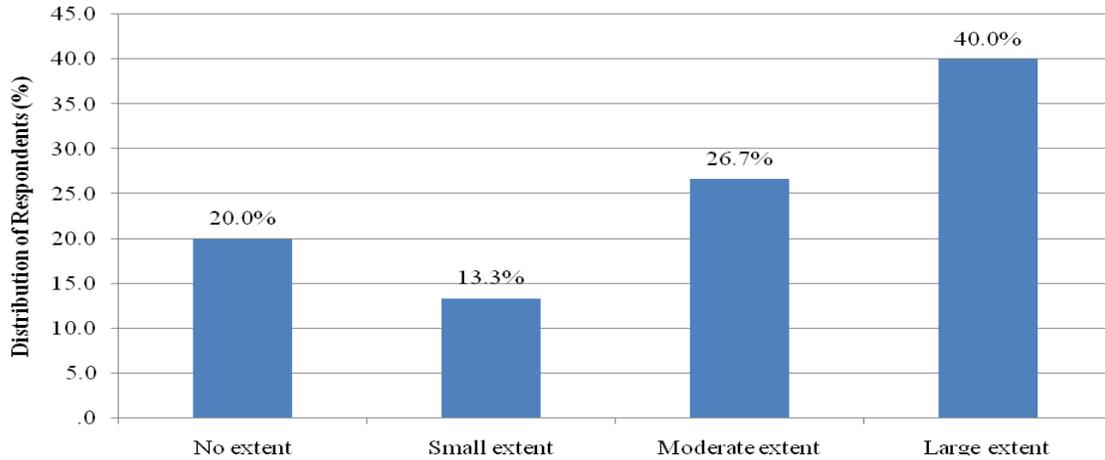


Figure 4.30: Training Enhance Policy Making Skills

The findings on figure 4.29 showed that 40% of the policy makers indicated that the training to a large extent enhanced the policy making process while 26.7% indicated to a moderate extent on the same. The results meant that the training offered to the policy makers enhanced their policy making skills. The study findings agree with Emojong (2004) that in-service training is significant on the performance of their work.

j) Extent Training Enhanced the Quality of Technical Education

The study sought to determine from technical education institution managers the extent to which the training had enhanced the quality of technical education in Kenya. The findings are presented in Figure 4.31.

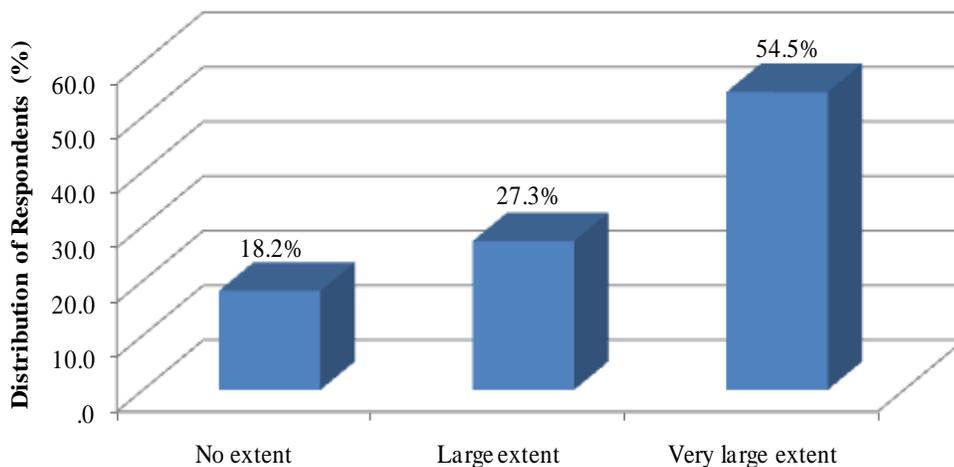


Figure 4.31: Extent Training Enhanced the Quality of Technical Education

From the findings presented in figure 4.30, most institution managers (54.5%) stated that the training to a very large extent enhanced the quality of technical education while 27.3% of them stated to a large extent. The findings therefore mean that the training to a large extent enhanced the quality of education in the technical educational institutions. The findings of the study support the views of Armstrong (2003) and Bodiner (2003) that the implementation of any programme the training of employees both the management and the employees is mandatory because the training equips the employees with skills, talents and knowledge.

4.4.6 Quality of Technical Education

In this section the study sought to determine the quality of technical education. The responses are presented in the subsequent sections.

a) Suitability of Curriculum

The institutional managers were asked to state the extent to which the curriculum met the needs of the Industry. The results are presented in Figure 4.32.

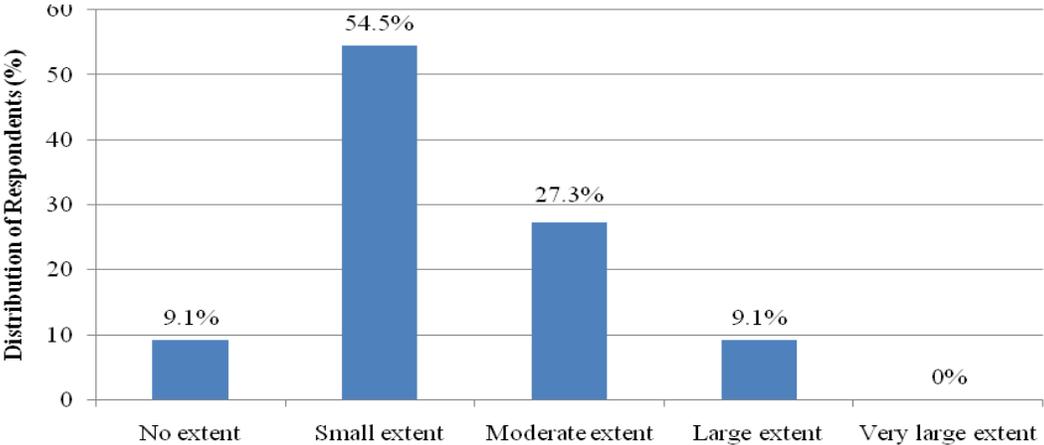


Figure 4.32: Suitability of Curriculum

The study findings show that most of the respondents (54.5%) indicated that the curriculum met the needs of the industry only to a small extent. The results also show that according to 27.3% of the respondents, curriculum met the needs of the industry

only to a moderate extent. The results imply that the curriculum was to a large extent not suitable to fit the needs of the industry.

b) Measures of Quality of Education

The institutional managers were therefore asked to state the extent to which they agreed with the statements regarding the quality of technical education in their institutions. The findings are presented on Table 4.14.

Table 4.14: Quality of Technical Education

Parameters	Strongly disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly agree (%)	Mean	Std. Dev
Institution produces competent graduates fit for the job market	9.1	45.5	18.2	18.2	9.1	2.82	.751
Graduates get absorbed into the job market	9.1	27.3	45.5	18.2	.0	2.45	.522
The number of enrolment has been going up	9.1	18.2	36.4	27.3	9.1	2.27	.647
There is minimal drop out of students	9.1	9.1	27.3	36.4	18.2	3.55	.688

The study findings on table 4.26 showed that most of the institutional managers (45.5%) disagreed that the institutions produced competent graduates fit for the job market while 18.8% of them strongly agreed with this statement. The results show that on average, the institutional managers (45.5%) were neutral as to whether the graduates were competent and fit into the market or not (mean score, 2.82). The study findings show that most of the institutional managers (27.3%) disagreed that the graduates got absorbed into the job markets. This was confirmed by the mean score

(2.45). The findings of the study also show that 27.3% of the institutional managers agreed that the number of enrolment in their institutions have been going up. However, most of the respondents neither agreed nor disagreed with the statement while 18.2% disagreed with the statement.

Generally, respondents remained neutral as to whether there has been increase in the number of enrolments in the institutions (mean score, 4.27). 36.4% of the respondents agreed that there has been minimal drop out of students while 18.2% strongly agreed that there was minimal dropout of students. The findings showed that generally, the respondents agreed that the dropout of students was minimal. There were variances in the responses (standard deviation ≥ 1). The respondents explained that despite the success in producing many graduates into the job market, the employers had always complained that the graduates are half baked. The respondents also explained that the time allocated for attachment was too short for the graduates to integrate with the practical work.

The findings that the graduates are able to be absorbed into the job market supported the views of Perna (2005) and Silver, Saunders and Zarate (2008) that quality education is achieved when the students are able to graduate, and proceed to the next level. The aim of the technical institutions is to prepare the students to enter the job market.

4.5 Normality Test

For one to fit a linear model to some given data, the dependent variable (quality of education) has to be normally distributed (Ghasemi & Zahedias, 2012).

4.5.1 Q-Q Plot

For the data to be normally distributed, the observed values should be spread along the straight diagonal line shown in Figure 4.32. Since most of the observed values are spread very close to the straight line, there is high likelihood that the data is normally distributed. This finding confirms the Q-Q plot .

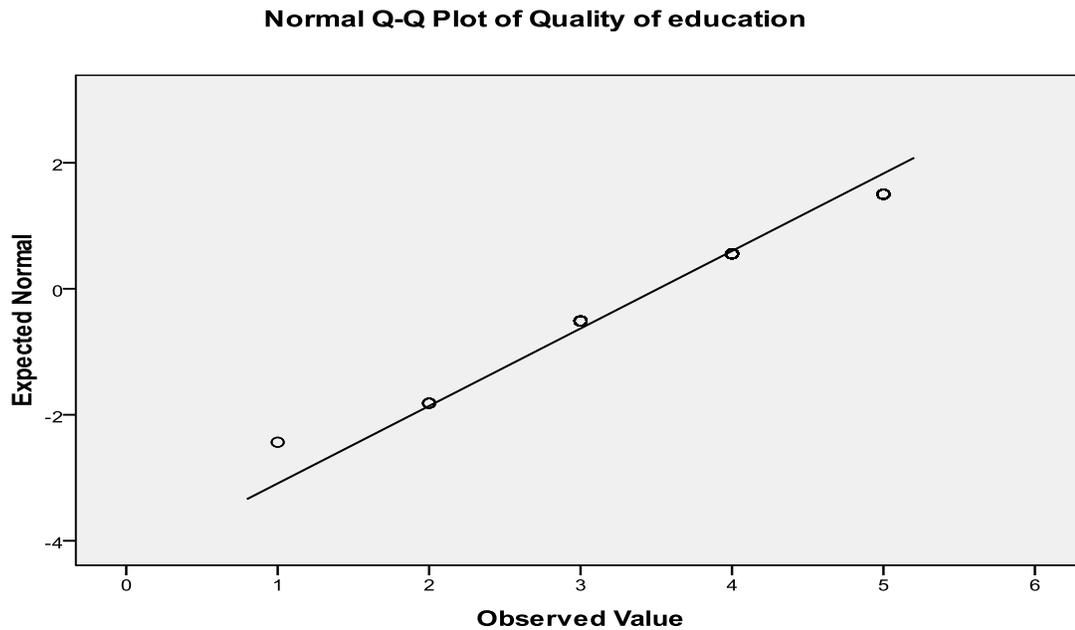


Figure 4.32: Normal Q-Q Plot of the Quality of Education

4.6 Correlation Analysis

The study conducted correlation analysis to test the strength of association/relationship between the research variables. Correlation is the measure of the relationship or association between two continuous numeric variables. Correlation indicates both direction and degree to which they covary with one another from case to case without implying that one is causing the other. Correlation analysis results give a correlation coefficient which measures the linear association between two variables (Crossman, 2013).

The value of correlation coefficient ranges between -1 and +1. A correlation coefficient of +1 indicates that two variables are perfectly related in a positive linear. A correlation of -1 indicates that two variables are negatively linearly related and a correlation coefficient of 0 indicates that there is no linear relationship between two variables.

To clearly show the correlation analysis results, the study used scatter plots diagrams. The findings of the study are presented in Table 4.15.

Table 4.15: Correlation

		Organizational structure	Leadership style	Policy makers competence	Training of employees	Quality of education
Organizational structure	Pearson Correlation	1				
	Sig. (2-tailed)					
Leadership style	Pearson Correlation	.122	1			
	Sig. (2-tailed)	.006				
Policy makers competence	Pearson Correlation	-.254**	-.030	1		
	Sig. (2-tailed)	.000	.003			
Training of employees	Pearson Correlation	.132	.014	-.421**	1	
	Sig. (2-tailed)	.021	.041	.000		
Quality of education	Pearson Correlation	.463**	.018	-.489**	.378**	1
	Sig. (2-tailed)	.000	.035	.000	.000	

The results of the correlation analysis revealed that organizational structure was positively related to the leadership style with a Pearson's Correlation Coefficient of $r = 0.122$ and at level of significance of 0.006, was statistically significant as the p-value is less than 0.05. This relationship was however not very strong. The results showed that there is a relatively weak negative relationship between policy makers competence and organizational structure with a Pearson's Correlation Coefficient of $r = -0.254$ and at level of significance of 0.000, was statistically significant as the p-value is less than 0.05. The relationship between policy makers competence and leadership was also negative with a Pearson's Correlation Coefficient of $r = -0.030$ and a level of significance of 0.014 hence statistically significant.

The results revealed that the training of employees was positively related to organizational structure with a Pearson Correlation Coefficient of 0.132 and a level of significance of 0.021 hence statistically significant as the p-value was less than 0.05. However, this relationship was weak. The study results revealed that there was a positive relationship between employee training and leadership style with a Pearson's Correlation Coefficient of $r = 0.014$ and 0.041 level of significance which imply that the test is statistically significant. The study results showed that training of employees have a negative relationship with competence of the policy makers with a Pearson Correlation Coefficient of -0.421 and a level of significance of 0.000 hence statistically significant as the p-value is less than 0.05.

The results showed that the quality of education is positively related to organizational structure with a Pearson Correlation Coefficient of 0.463 and a level of significance of 0.000 hence statistically significant as the p-value is less than 0.05. The study also the quality of education and the leadership style are positively related with a Pearson Correlation Coefficient of 0.018 and a level of significance of 0.035 hence statistically significant as the p-value is less than 0.05. The findings showed that the relationship between the quality of education and policy makers competence was negative with a Pearson Correlation Coefficient of -0.489 and a level of significance of 0.000 hence statistically significant as the p-value is less than 0.05. Finally, the study show that the relationship between the quality of education and training of the employees was positive with a Pearson Correlation Coefficient of 0.378 and a level of significance of 0.000 hence statistically significant as the p-value is less than 0.05. The study findings meant that there was a positive relationship between the variables, save for policy makers' competence which was negative. The relationships were however weak.

4.7 Overall Regression Analysis

The study further carried out regression analysis to establish the statistical significance relationship between the independent variable, organizational structure, leadership style, competence of policy makers and training and the dependent variable, quality of

technical education. According to Green and Salkind (2003) regression analysis is a statistics process of estimating the relationship between variables. It helps in generating equation that describes the statistical relationship between one or more predictor variables and the response variable. The regression analysis results were presented using regression model summary tables, analysis of variance (ANOVA) table and beta coefficient tables.

4.7.2 Combined effect Model

In this section, multiple regression analysis was to determine whether independent variables notably, X1 = organization structure, X2 = Leadership style, X3 = Policy makers competence and X4 training of instructors and management affected the dependent variable the quality of education. As a result, this subsection examined whether the multiple regression equation could be used to explain the nature.

Multiple regression model presented below was used to test on the relationship between the variables of the study:

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Where:

Y	-	Quality of technical education
α_0	-	Is the constant
X ₁	-	Organizational structure
X ₂	-	leadership style
X ₃	-	Competence of policy makers
X ₄	-	Training of instructors and management
$\beta_1, \beta_2, \beta_3$ & β_4	-	Coefficients
e	-	Is the residual error

The study carried out an overall regression model to determine the significance of each of the independent variables on the dependent variable. The findings are presented below.

On Table 4.16, the coefficient of determination is 0.711 which implied that 71.1% of the variation in the quality of technical education was explained by the organizational

structure, the leadership styles, the policy makers' competence and the training offered to the staff. This implied that there existed a strong positive relationship between the independent variables and the quality of education in technical educational institutions. The remaining 28.9% can be explained by other variables not included in the study. R square and adjusted R is high; therefore this implies that there is a high variation that can be explained by the model.

Table 4.16: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.843 ^a	.711	.708	.513

The ANOVA results for regression coefficients on Table 4.17 showed that the significance of the F statistics is 0.000 which is less than 0.05. This implied that there was a significant relationship between the organizational structures, the leadership styles, the policy makers' competence and the training offered to the staff and quality of education.

Table 4.17 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	58.086	4	14.522	55.164	.000 ^a
	Residual	51.595	196	.263		
	Total	109.681	200			

Table 4.18 presents the beta coefficients of all independent variables versus the dependent variable.

Table 4.18: Coefficients

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	1.145	.329		3.482	.001
	Organizational structure	.276	.055	.270	5.025	.000
	Leadership	.110	.048	.115	2.294	.023
	Policy makers competence	-.245	.053	-.256	-4.591	.000
	Training of employees	.787	.114	.385	6.907	.000

Fitted model $Y = 1.145 + 0.276X_1 + 0.110X_2 - 0.245X_3 + 0.787X_4$

The regression model was written as: Quality of Education = 1.145 + 0.276 Organizational structure + 0.110 Leadership style – 0.245 Policy makers competence + 0.787 Training of staff

The Beta Coefficients in the regression show that most of the tested variables (organizational structure, the leadership styles, the policy makers’ competence and the training offered to the staff) had positive relationship with quality of education except the policy makers’ competence which had a negative relationship with the quality of technical education. The findings show that all the variables tested were statistically significant with p-values less than 0.05.

$X_1 = 0.276$ which implied that a unit change in the organizational structure resulted into a 0.276 change in the quality of technical education.

$X_2 = 0.110$; this implied that one unit change in the leadership style will result into a 0.110 change in the quality of technical education.

$X_3 = -0.245$; implied that one unit change in the policy makers’ competence will result into a -0.245 change in the quality of technical education.

$X_4 = 0.787$; implied that one unit change in training of staff will result into a 0.787 change in the quality of technical education.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this chapter, the summary of findings, conclusions and recommendations of the study are presented. The purpose of the study was to evaluate the effect of the change management capacity on the quality of technical educational institutions in Kenya. The objectives of the study were to determine the influence of organizational structure on the quality of technical educational institutions, establish the influence of leadership styles on the quality of technical educational institutions, examine the influence of competence of policy makers on the quality of technical educational institutions and to determine the moderating effect of training of instructors on the quality of technical educational institutions in Kenya.

5.2 Summary of Findings

5.2.1 Organizational Structure

The study established that according to majority of the institution managers (81.8%), organizational structure influenced the change process in the organization and therefore had a direct influence on the quality of technical education in Kenya. It further showed that according to majority of the respondents (81.9%), the organizations had plans for the implementation of educational reforms which included mobilization of resources (mean score 4.45), selection of teams to spearhead the reforms process (mean score 4.27), training of staff (mean score 4.36) and consultation with stakeholders (mean score 4.18) plans. The study established that majority of the management of the technical educational institutions (81.8%) allowed other staff to participate in the reforms process.

The findings revealed that 73% of the institutional managers, the reforms processes in the organization were coordinated between the management and instructors. Majority of the institution managers (82%) stated the management sought the views of other staff during the implementation of reforms which shares in the views of Maffae and

Meredith (1995) that organizations should adopt flexible structures to encourage greater staff participation for enhanced performance and quality. According to majority of the institutional managers (81.9%), the organizational structure influenced the management of the reforms process in the technical institutions.

5.2.2 Leadership Style

According to 41.3% of instructors the leadership in the institutions as involving and friendly. It was established that 86% of the instructors stated the top management was involved in the change process where they took lead in the change process through decision making (49.3%) as was advocated by O'Reilly et al (2010) that participatory leadership plays an important role in growing inner capabilities and priorities for the success of the organization. The study results revealed that the principals gave orders on what was to be done at every stage of the change process (mean score 3.52). It was further revealed that majority of the instructors (71.4%) indicated that flexible leadership style positively influenced the quality of technical education through supervision and provision of direction.

5.2.3 Policy Makers' Competence

The results of the study revealed that 46.6% of the respondents indicated that to a large extent they consulted stakeholders during policy making. It was further established that some of the institutional managers (54.5%) indicated that they were consulted during the policy planning of the reforms process only to a small extent while 27.3% of the respondents indicated to a large extent, the institutional managers were consulted during the planning of the reforms. The results revealed according to 45.5% of the respondents stated that there has been consultation with the stakeholders during the policy making.

The findings further revealed that 36.4% of the respondents stated that they provided education to the stakeholders. Failure by some the policy makers to consult widely with institutions' management and instructors as was evidenced by the study findings led to poor implementation of reforms. Consultation by top management during change process was key. Inadequate consultation by some policy makers during the reform process was a pointer to incompetence by some policy makers. According to

36% of institution managers, the level of competence of policy makers influenced the quality of education in technical colleges to a very large extent.

5.2.4 Training

The study established that most of the policy makers to moderate extent received training on policy formulation. The training on policy making lasted just for a few days where the trainees graduated with the certificate. The study revealed that majority of the institutional managers (82%) received training on implementation of reforms which took a few months. The organizations according to 82% of the respondents trained its employees on the desired change. The areas of training were strategies to implement the reforms. The findings revealed that most of the institutional managers had the required skills to effectively implement reforms. One third of the respondents indicated that they did not have effective implementation of reforms. Majority respondents stated that to a very large extent the training enhanced the quality of technical education.

5.2.5 Quality of Education

The study established that most of the institutional managers (54.5%) stated that the curriculum did not meet the needs of the industry. Similarly, the Institutional managers indicated that the institutions did not produce competent graduates fit for the job market. The findings showed that most of the respondents did not agree that the graduates got absorbed into the job markets (mean score 2.45). The findings of the study show that 27.3% of the respondents either agreed or strongly agreed that the number of enrolment in their institutions had been rising. Most of the respondents stated that there has been minimal drop out of students.

5.3 Conclusion

From the findings of the study, the researcher concluded that the institutions were structured to suit the reforms that were initiated through assigning special groups to spearhead the change process and putting plans in place for the effective implementation of the reforms. This positively influenced the quality of technical

education thereby filling the gap that was left by previous study by Otiende (2009) and Chang'ach (2013). The leadership style influenced the success of the reforms process in the organizations as the process became more successful where the management involved other staff in the process but took the leadership role which will in turn enhanced the quality of the technical education.

The policy makers' competence was also established to be influential on the quality of technical education. However, the implementation of the reforms was forced on the institutional managers as they were rarely consulted during the policy planning process and hence the failure in the implementation as some did not understand what they were implementing. The training was key in the realization of the delivery of quality education of technical education through acquisition of skills for either implementation or policy formulation. The graduates from the technical institutions were not readily absorbed into the job markets due to the mismatch between the curriculum and the job market. This study established the link that incompetence of top management in DTE with regard to policy formulation has negative influence on policy implementation addresses the gap by Sonntag (2009) that failed to link competence of policy makers and delivery of quality education in technical institutions.

5.4 Recommendations

From the conclusions arrived at, the following recommendations were made:

First, technical educational institutions should adopt flexible organization structures to suite the particular reform process for effectiveness and achievement of desired results so as to enhance the quality of technical education.

Second, the management of the technical educational institutions should adopt participatory leadership styles which will accommodate the views of staff, students and relevant stakeholders in the process. The teams selected to spearhead the change process should be personnel with knowledge skills and attitudes on policy formulation and implementation.

Third, there is need for the government policy makers to review curriculum in consultation with industry players to prepare the learners for the job market.

Fourth, the curriculum should also be revised to give more time to job attachments so as to prepare the graduates from technical educational institutions for the job market. The students on practical attachment need constant and continuous supervision by technically experienced instructors.

Fifth, there should be constant consultation by the Directorate of Technical education with the institutional managers for effective implementation of the reforms so as to achieve the desired results in education.

Last, the government should make policy that will ensure that those charged with the task of policy making in the education sector gain policy skills and competence through regularly capacity building programmes.

5.5 Areas for Further Research

The study was carried out on the public technical and vocational educational institutions and focused on the change management capacity and its effect on the quality of education in Kenya. It thus suggests that future studies should be done on challenges facing the implementation of reforms in the public technical and vocational educational institutions in Kenya which was not covered the study. The study also suggests that further research should target the students who left the technical institutions to establish the effect of the reforms on the quality of technical education. The researcher further suggests that future studies should be to establish if views of employers should sought while designing the curriculum of technical education institutions.

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APPENDICES

APPENDIX 1: LETTER OF INTRODUCTION

Complementary Letter to the Respondents



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Dear Sir/Madam,

Re: Doctorate Management Research

I am a postgraduate student undertaking a Doctorate degree at Jomo Kenyatta University. I am currently developing a management research project whose theme is to evaluate the change management capacity on the quality of technical education in Kenya. To this end, I kindly request you to provide the requested information by filling out the attached questionnaire. The information required is purely for academic research purposes only and in no way will your name or that of your institution be implicated in the research findings. Your cooperation and quick response shall be highly appreciated.

Yours respectfully,

James Sawega Walala

APPENDIX II: QUESTIONNAIRE - TECHNICAL INSTITUTIONS MANAGERS

The aim of the study is to evaluate the change management capacity on the quality of technical educational institutions in Kenya. Information provided will be used for academic purposes only. Please note that your views will be treated confidentially and will go a long way in assisting to quality education in the technical institutions in Kenya.

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY BEFORE YOU START FILLING THE QUESTIONNAIRE

1. Please read each question carefully.
2. For questions requiring you to choose the extent of agreement or importance indicate only one appropriate choice on scale of 1-5
3. Fill in answers to all questions with blank spaces.
4. Do not indicate your name on the questionnaire

PART I: RESPONDENTS BIO DATA

1. Name of the institution _____

2. Age _____ (years)	3. Position (Title) in the institution Department/Section _____
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4. What is your highest level of education? Diploma Graduate
 Postgraduate Others, please specify _____

5. How long have you been in the institution? less than 5 years
 5 – 10 years 11 – 15 years Over 15 years

PART II: INFLUENCE OF ORGANIZATIONAL STRUCTURE ON THE QUALITY OF TECHNICAL EDUCATIONAL INSTITUTIONS

6. a) According to your opinion, which kind of structure has been adopted by your organization?

- Bureaucratic Matrix Functional

Others (specify) _____

b) Explain your answer _____

7. a) To what extent does the organization charge a particular group with change process during the reforms process?

- No extent Small extent Moderate extent
 Large extent Very large extent

b) Explain your answer _____

8. a) Do you plan for the implementation of educational reforms in the institution? Yes No

b) If yes, to what extent do you agree with the following statements as the plans for the implementation of reforms on a scale of strongly disagree (SD), disagree (D), neutral (N), Agree (A) and strongly agree (SA)?

	SD	D	N	A	SA
Mobilization of resources	<input type="checkbox"/>				
Selecting the team to spearhead the process	<input type="checkbox"/>				
Training of the staff on the change	<input type="checkbox"/>				
Consultation with stakeholders	<input type="checkbox"/>				

9. To what extent does the institution's management give the other staff opportunity to participate in the change process?

- No extent Small extent Moderate extent
 Large extent Very large extent

10. Who are responsible for change process in the organization?

- Management A special team assembled Everyone

Others (specify) _____

11. To what extent is there co-ordination in the reform process between management and the instructors?

- No extent Small extent Moderate extent
 Large extent Very large extent

12. a) Is the management usually flexible in that it incorporates the views of the other staff in the implementation of reforms in the organization?

- Yes No Don't know

b) Explain your answer

13. To what extent has the organizational structure influenced the success of the reforms hence the quality of technical education?

- No extent Small extent Moderate extent
 Large extent Very large extent

14. In your opinion, how has the organizational structure influenced the quality of education in the institution?

15. State what should be done to the organizational structure for better management of change in the organization?

PART III: INFLUENCE OF COMPETENCE OF POLICY MAKERS ON THE QUALITY OF TECHNICAL EDUCATIONAL INSTITUTIONS

16. a) To what extent were you consulted during the planning for the reforms in

- the sector? No extent Small extent Moderate extent
 Large extent Very large extent

b) If consulted, in what areas were you consulted?

- What should be in the policy Areas of reforms
 General opinion

17. Do you think the change process was influenced by the competence policy

- makers? Yes No Don't know

18. If yes, how did they influence the change process?

- Provided feedback carried out monitoring and evaluation
 provided education to the stakeholders. Consulted with stakeholders during policy making process

19. To what extent has the policy makers' competence influenced the quality of technical education in Kenya? No extent Small extent Moderate extent Large extent Very large extent

20. Explain in your own words how the policy makers' competence has influenced the quality of technical education in Kenya?

PART IV: EFFECT OF TRAINING OF INSTRUCTORS ON THE QUALITY OF TECHNICAL EDUCATIONAL INSTITUTIONS

21. a) Have you ever received training on the implementation of the reforms in the sector? Yes No Don't know

22. b) If yes, how long was the training?

23. A few days A few months Several months

Others (specify)_____

24. a) Did the organization offer training to its employees for implementation of the desired change? Yes No Don't know

25. b) If yes, in what areas?

Strategy to effect the reforms

How to manage the employees during change

Others (specify)_____

26. Did you have the required skills for the efficient implementation of the reforms? Yes No Don't know

27. To what extent did the training enhance the quality of technical education?
 No extent Small extent Moderate extent
 Large extent Very large extent

28. In your opinion, how did training enhance the quality of technical education?

PART V: QUALITY OF TECHNICAL EDUCATION

29. State the extent to which you agree with the following statement regarding the quality of technical education on a scale of 1 – 5 where 1 represents Strongly disagree and 5 strongly agree

		1	2	3	4	5
1	The institution produces competent graduates fit for the job market					
2	Our graduates get absorbed into the job market					
3	Our graduates are self starters and have excelled in entrepreneurship					
4	The number of enrolment has been going up					
5	There is minimal drop out of students					

APPENDIX III: QUESTIONNAIRE FOR INSTRUCTORS

The aim of the study is to evaluate the change management capacity on the quality of technical educational institutions in Kenya. Information provided will be used for academic purposes only. Please note that your views will be treated confidentially and will go a long way in assisting to quality education in the technical institutions in Kenya.

Please read the following instructions carefully before you start filling the questionnaire

1. Please read each question carefully.
2. For questions requiring you to choose the extent of agreement or importance indicate only one appropriate choice on scale of 1-5
3. Fill in answers to all questions with blank spaces.
4. Do not indicate your name on the questionnaire

PART I: RESPONDENTS BIO DATA

1. Name of the institution _____

30. Age _____ (years)	31. Position (Title) in the institution Department/Section _____
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2. What is your highest level of education? Diploma Graduate
 Postgraduate Others, please specify _____
3. How long have you been in the institution? less than 5 years 5 – 10 years
 11 – 15 years Over 15 years

PART II: INFLUENCE OF ORGANIZATIONAL STRUCTURE ON THE QUALITY OF TECHNICAL EDUCATIONAL INSTITUTIONS

4. How would you describe the organizational structure in your institution?
Flexible Inclusive Rigid Don't know

5. State the extent to which you agree with the following statements on the organizational structure with regard to its effect on the management of the educational reforms in the institution on a scale of 1 – 5 where 1 represents Strongly disagree and 5 strongly agree

		1	2	3	4	5
1	The management are responsible for the management of the changes in the institution					
2	There is always a team in place to oversee the new reforms initiated in the institution					
3	The organization management is flexible as it accommodates the views of everybody					
4	The other employees feel left out in the reform processes in the institutions as the management does not involve others					
5	When it comes to the implementation of the reforms in the institution, all the employees are treated equally					
6	The quality of training in the institution is attributed to the flexible organizational structure					

6. In your opinion state how the organizational structure has influenced the quality of education in the institution?

7. What should be done to the organizational structure to enhance change management in the institution?

PART III: INFLUENCE OF LEADERSHIP STYLES ON THE QUALITY OF TECHNICAL EDUCATIONAL INSTITUTIONS

8. How would you describe your principal? Friendly Involving
 Authoritarian

Others (specify) _____

9. a) Is the top management involved in the change process during the reforms in the institution? Yes No Don't know

b) Explain your answer in 11a) above

c) If they are involved, in what areas of the implementation of the change are they involved? Decision making Supervision
 implementation itself

10. a) To what extent does the leadership support you in your assignments?

No extent Small extent Moderate extent
 Large extent Very large extent

b) Explain your answer

11. To what extent does the leadership take lead in the change process?

- No extent Small extent Moderate extent
 Large extent Very large extent

12. Please indicate your extent of agreement with these statements about leadership and change management on a 5 point likert scale (1-5), where: 1. Strongly Disagree; 2. Disagree; 3. Indifferent; 4. Agree and 5. Strongly Agree

	1	2	3	4	5
Principals involve other staff in decision making process					
The rules are followed strictly in the process					
Principal does not involve staff but leave process to take its course					
Principal gives orders on what is to be done at every stage of change process					
The staff are free to do what they think is right					

13. To what extent has the leadership influenced the quality of education in the institution?

- No extent Small extent Moderate extent
 Large extent Very large extent

14. In your opinion how has the leadership style influenced the quality of education in your institution?

15. What in your opinion should be done to the leadership style of the organization to enhance the quality of education?

APPENDIX IV: QUESTIONNAIRE FOR POLICY MAKERS

The aim of the study is to evaluate the change management capacity on the quality of technical educational institutions in Kenya. Information provided will be used for academic purposes only. Please note that your views will be treated confidentially and will go a long way in assisting to quality education in the technical institutions in Kenya.

Please read the following instructions carefully before you start filling the questionnaire

1. Please read each question carefully.
2. For questions requiring you to choose the extent of agreement or importance indicate only one appropriate choice on scale of 1-5
3. Fill in answers to all questions with blank spaces.
4. Do not indicate your name on the questionnaire

PART I: RESPONDENTS BIO DATA

1. Name of the institution _____

2. Age _____ (years)	3. Position (Title) in the institution Department/Section _____
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4. What is your highest level of education? Diploma Graduate
 Postgraduate Others, please specify _____
5. How long have you been in the ministry? less than 5 years 5 – 10
years 11 – 15 years Over 15 years

PART II: POLICY FORMULATION

5. To what extent have you attended training in policy formulation?

- No extent Small extent Moderate extent
 Large extent Very large extent

6. How long did the training take?

- A few months Several months
 Others (specify) _____

7. What was the level was the training? Certificate Diploma Degree

8. To what extent has the training enhanced your policy making skills?

- No extent Small extent Moderate extent
 Large extent Very large extent

9. To what extent to you consult stakeholders during the process of policy making? No extent Small extent Moderate extent

- Large extent Very large extent

10. Do you gather data/information during the policy making process?

- Yes No Don't know

11. What processes does the policy making go through?

12. In your opinion, has the reform policies influenced the quality of education in technical training institutions in Kenya?

APPENDIX V: INTERVIEW GUIDE FOR PRINCIPALS

1. How would you describe the performance of your institution?
 Excellent Good Average Fair Poor
2. How would you describe the number of graduates who are absorbed in the industry? Majority Several Average Few None
3. Do you think the organization structure has any influence of the quality of education in your institution? Yes No Don't know
4. In your opinion, how has the bureaucracy of leadership influenced the quality of education in your school?

5. To what extent did the trainings offered to the instructors influenced their ability to implement the reforms in the sector hence the quality of education?

6. Do you think the policy makers have the required competence to formulate policies for the sector? Yes No
7. If yes, why do you think they have the competence?

8. If no, explain why you think so,

APPENDIX VI: INTERVIEW SCHEDULE FOR DIRECTORATE MANAGERS

9. A number of reforms have been initiated in the technical education sector with mixed results of success, can you explain some of the reasons?

10. What processes do you go through during the policy formulation process?_____

11. How often does the directorate organize trainings for its staff on policy making?

12. In your opinion, has the competence of the policy makers influenced the quality of technical education in Kenya? Yes No

Explain_____

APPENDIX VII: LIST OF TECHNICAL INSTITUTIONS

	Name of the Institution	Region
1	Kiambu Institute of Science and Technology	Kiambu
2	Michuki Technical Training Institute	Muranga
3	Murang'a Institute of Technology	Muranga
4	Nyandarua Institute of Science and Technology	Nyandarua
5	Nyeri Technical Training Institute	Nyeri
6	Thika Technical Training Institute	Thika
7	Government Training Institute (Embu)	Embu
8	North Eastern Province Technical Training Institute	Garissa
9	Mombasa Technical Training Institute	Mombasa
10	NYS Technical College	Mombasa
11	Coast Institute of Technology	Voi
12	Kenya Institute of Highways and Building Technology (Ngong Campus)	Kajiado
13	Machakos Technical Institute For The Blind	Machakos
14	Technology Development Centre-Athi River	Machakos
15	NYS Engineering Institute	Nairobi
16	NYS Textile and Garment Technical Institute (Kasarani)	Nairobi
17	Burhani Womens Finishing College	Nairobi
18	Chiromo Industrial Electronics College	Nairobi
19	East African School of Aviation	Nairobi
20	K.P.L.C. Technical Training Institute	Nairobi
21	Kabete Technical Training Institute	Nairobi
22	Kenya Institute of Business Training	Nairobi
23	Kenya Institute of Highways and Building Technology	Nairobi
24	Kenya Institute of Surveying and Mapping	Nairobi
25	Kenya Technical Teachers College	Nairobi
26	Nairobi Technical Training Institute	Nairobi

27	National Youth Service Secretarial College	Nairobi
28	NYS Institute of Business Studies	Nairobi
29	NYS Vocational Training Institute (Nairobi)	Nairobi
30	Railway Training Institute	Nairobi
31	Government Training Institute (Baringo)	Baringo
32	Rift Valley Technical Training Institute	Eldoret
33	Eldoret Polytechnic	Eldoret
34	Kenya Industrial Training Institute	Nakuru
35	National Youth Service School of Catering	Nakuru
36	National Youth Service Training College	Nakuru
37	NYS Advanced Building School	Nakuru
38	NYS Technical Training Institute	Nakuru
39	Rift Valley Institute of Science and Technology	Nakuru
40	St. Joseph's Technical Institute For The Deaf	Bondo
41	Sang'alo Institute of Science and Technology	Bungoma
42	Kisumu Polytechnic	Kisumu
43	Ramogi Institute of Advanced Technology	Kisumu
44	Rural Craft Training Centre.- NYS Turbo	Kakamega
45	Mawego Technical Training Institute	Rachuonyo
46	Siaya Institute of Technology	Siaya
47	Friends College Kaimosi	Vihiga