

**INFLUENCE OF KENYA RURAL ROADS AUTHORITY CAPACITY ON  
COMPLETION OF CONSTRUCTION PROJECTS IN UASIN GISHU REGION,  
KENYA**

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**A research project report submitted in partial fulfillment of the requirements for the  
award of a degree of Master of Arts in project planning and management in University  
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## DECLARATION

This research project is my original work and has not been presented for a degree in any other university.

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## **DEDICATION**

This research project is dedicated to my wife Elizabeth and children Peter, Kenneth and Shantel for support and patience during the entire preparation period.

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## **LISTS OF ABBREVIATIONS AND ACRONYMS**

|                |  |
|----------------|--|
| <b>B.O. Q:</b> | Bill of Quantity                                   |
| <b>CPI:</b>    | Computer Peripherals International                 |
| <b>IS:</b>     | Information Systems                                |
| <b>IT:</b>     | Information Technologies                           |
| <b>ICT:</b>    | Information Communication and Technologies         |
| <b>IFRS:</b>   | International Financial Reporting Standards        |
| <b>KeRRA:</b>  | Kenya rural roads authority                        |
| <b>KENHA:</b>  | Kenya National Highway Authority                   |
| <b>NCA:</b>    | National Construction Authority                    |
| <b>NEPAD:</b>  | New partnership to Africa's Development            |
| <b>UNCTAD:</b> | United Nations Commission on Trade and Development |
| <b>WHO:</b>    | World Health Organization WHO                      |
| <b>WPMS:</b>   | Work Process Management System                     |

## ABSTRACT

The construction sector has an important contribution to the development process globally. Through this, the important and essential public infrastructure and private physical structures are made available for a lot of activities like services, commerce, utilities and other industries. This sector is not only essential for its end product, it also provides employment opportunities thus contributing to the future economy of the country as a whole. Construction projects are commonly acknowledged as successful when they are completed on time, within budget, and in accordance with specifications and to stakeholders' satisfaction. Many of projects exceed the original cost; get cancelled prior to completion, while others fail on terms of the delivered functionality. The research looked into the influence of Kenya Rural Roads authority capacity on completion of construction projects Uasin Gishu region, Kenya. The study was guided by the following research objectives: to determine the influence of human resource capacity on project completion in KeRRA, Uasin Gishu Region; to establish how technology capacity influence project implementation in KeRRA, Uasin Gishu Region; to determine the influence of financial management capacity on project implementation in KeRRA, Uasin Gishu Region; to determine the influence of procurement capacity on project completion and delivery in KeRRA, Uasin Gishu Region. The research used descriptive survey design. The study targeted a population of 170 respondents who constitute of both technical and non-technical staff. Using Krejcie & Morgan table sample determination formula 118 respondents were sampled. The researcher used simple random sampling technique. The Statistical Package for Social Sciences (SPSS) version 21 aided the analysis; descriptive statistics were used in the analysing data. After data collection, the data were coded organised and edited to remove any inconsistencies, repetitions or errors. The study concluded that a firm to implement their projects well they should have highly qualified employees who know the milestones of successfully completing the quality project in time. This is because there is associated between highly educated workforces and higher productivity in an organization. However, with these highly qualify employees the firm should have high tech facilities such as trucks, graders, excavators which will facilitate efficiency of project completions as it was observed in KeRRA Uasin Gishu County. The use of these technology facilities in constructions projects was seen to have improves better coordination and communication among project teams and participants. It has also increased the speed of communication and decreases documentation errors in recording the projects reports. The study recommended that the firms should employ highly educated workforces for well completion of project and higher productivity in the firm. The construction firms should adopt more of new technology facilities in constructions in the region in order to enhance the completions of projects. These adoption and use of technology facilities in constructions projects will improves better coordination and communication among project teams and participants.

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background to the Study

The construction sector has a vital commitment to the improvement procedure internationally. Through this, the vital and basic open foundation and private physical structures are influenced accessible for a great deal of exercises to like administrations, business, utilities and different enterprises (Wibowo, 2009). Customer limit in financing the undertaking is a basic component fundamental for finishing of any given venture. Kalinova (2007) attests that arranging and administration of a task other than complexity needs the sentiments of a framework as per what number of partners is in the venture. Task fruition is basic in guaranteeing successful and productive administration conveyance to buyers. Deferrals in venture finish result in an unfathomable increment in cost to society.

Nearby overseeing bodies in Australia are in charge of more than 642 000 kilometers of neighborhood streets in the nation. This is a noteworthy extent (more than 80 for each penny) of the country's streets by length. The KeRRA limit is carried to neighborhood government to give vital help in guaranteeing streets are developed, kept up and observed. Devolution to a nearby overseeing specialist has enhanced administration conveyance, lessened dangers and enhanced consummation rates of activities to 88% of every 2016 from 22% out of 1998. Consistent correspondence among neighborhood experts and specialist organizations among them prompts division of work, improvement of individual abilities and obligations regarding proficiency in the basic leadership process (Smallwood, 2006).

As indicated by Hubbard (2010), customer's capacity to back the undertaking is a critical factor to its finishing. In Jordan it is accounted for that disappointment of streets culmination is because of poor financing by the legislature. Consequently, impacts of customer's ability on effective finish of construction ventures are the worry of the Jordan government. The formal structures are moderate, financing takes edges of endorsement, and gradualness in receiving present day advancements. For instance, while evaluating the continuation and reports of 28 interstate ventures made amid the period 1996-1999 in Jordan, Battaineh (2006) contended that the normal proportion of the genuine end time to the arranged contract span is

160.5% for street works. The rate puts rating of Jordan nation street construction beneath the creating nations on the planet.

Brazil is accounted for to have adequate exertion of HR that can offer help in construction industry. Human capital is a pivotal component in producing future development and flourishing. Human capital ventures like as instruction and preparing are basic for fruitful culmination of undertakings. Staffing is guaranteeing that posts are loaded with the correct sort of individuals in the correct activity at the ideal time (Tessaring, 2011). Human capital is distinguished to be the most profitable resource for the nation. The labor are talented in Brazil has contributed colossally to fruitful finishing of thousands of street arrange. Subsequently, the productive conveyance of construction ventures relies upon how great labor is keeping up convenient finishing of construction ventures. It is essential hence to prepare, create and keep up quality workforce able to do and focused on the achievement of the business (Loosemore et al., 2003)

McGregor (2002) and Dodds (2007) contended that innovation is the primary apparatus for effective culmination of a task. In China is accounted for to have reasonable advancements, devices and hardware's than some other nation on the planet. The accessibility of such framework has driven China to have the best condition of Craftsmanship Street organize on the planet. Dominant part of the streets are built and finished inside the timetable. The customer limit is facilitating by having appropriate advances and framework. The advancement is the helpful segment in usage of another or fundamentally enhanced thought, great, administration, process or practice that is planned to be valuable. It was thus clear that Dodds (2007) trusted that innovation had the gigantic capacity in helping China customer ability to leave from business as usual and to play out their street constructions works in a much-enhanced manner.

Joined Countries Commission on Trade and Advancement (UNCTAD) (2001) showed that costly task delays as a major impediment and states that low undertaking time, quality and cost of execution as difficulties to the finish of street ventures. This has prompted low estimating of consummation of street extends regarding time, cost and nature of the work. Developed street ventures bomb in time execution, cost and quality execution. In 2009, a few street ventures were done with needing execution because of the difficulties from the customer like changes made to the outline and drawing, more works, sitting tight for an approval from the customer, giving over, variety arrange, corrections in Bill of Amount

(B.O.Q) and deferral of getting illustrations (Strenman, 2012). At present, subsidizing is the fundamental deterrent to auspicious finish of street ventures which prompts delay and even suspension of construction work until the point when the administration gives financing (Luthaus, 2002).

Overseeing funds is additionally a basic component in venture usage. The legislature of Rwanda street construction expert has played a main part in overseeing street funds and utility. Despite the fact that task conveyance process does the nation have a phase called subsidizing, challenges identified with financing which influence each level of the procedure (Sullivan and Mayer, 2010). An undertaking can concur with nature act however just for supporters to oppose the whole spending plan. Mansfield et al (2004) examined discoveries in Rwanda on the connection between cost invades and venture delays and contended that a positive relationship exists between the two elements. The nation open administration concentrates on acquirement and sourcing of contractual workers and assets (Ombaka, 2009). The emphasis on open funds in street constructions makes street construction culmination rates to be higher in Rwanda. That demonstrates that back administration is essential segment for experts in guaranteeing finish of street constructions. World Wellbeing Association WHO report (2007) declares that a productive obtainment process ensures that the merchandise required are accessible at the opportune time, right amount, for the correct customer, and at a sensible cost and quality.

Kenya Provincial Streets Expert is a State Enterprise whose order is to offer direction in the construction; upkeep and administration of the rustic street organize in the nation. KeRRA is in charge of the administration, advancement, recovery, and support of country streets "C". The part of KeRRA is the improvement, recovery, upkeep and administration of provincial streets in the nation. This is appropriately expressed in the Kenya Streets Act 2007 and will involve the accompanying capacities and obligations: Building, redesigning, restoring and keeping up provincial streets, controlling stores for rustic streets and access to roadside advancements, actualizing street strategies in connection to country streets. Guaranteeing adherence by drivers to the tenets and rules on pivot stack control endorsed under the Movement Demonstration or some other existing directions. Guaranteeing that the nature of street works is as per such guidelines as might be characterized by the Pastor.

As a team with the Service in charge of Transport and the Police Division, different elements of KERRA incorporate supervising the administration of activity on country streets and

issues identified with street wellbeing. Gathering and ordering every single such datum identified with the utilization of country streets as might be fundamental for productive forward arranging. Observing and assessing the utilization of rustic streets Arranging the improvement and support of provincial streets Liaising and co-organizing with different Experts in arranging and operations in regard of streets Getting ready street work programs for every single country street Exhorting the Pastor on all issues identifying with country streets; and Performing such different capacities identified with rustic streets as might be coordinated by the Priest.

## **1.2 Statement of the Problem**

Undertaking administration, as an administration teaches, is generally new and all the more so perplexing and dynamic. The information hole that exists inside the calling has been the best fixing in overseeing ventures. In any case, it is commenced that the unmistakable comprehension of such basic missing data will empower fruitful administration of activities. Subsequently, the test of how to deal with ventures effectively has pulled in considerable research consideration in the current past.

It is evaluated at 60% of construction extends in Kenya don't get finished. As per Kenya Country Streets Expert, (2013) there have been a few tasks which were not finished by the end due to requirements like low supply of materials, awful foundation, and absence of financing and wasteful undertaking supervisors. Negligible of information on key undertaking achievement factors leaves venture supervisors speculating on the most proficient method to convey fruitful activities by exploring through the complex yet new "landscape" of task administration. This has prompted either slowed down or fizzled ventures. Additionally, for the few activities that get finished, they are related with; scope crawl, cost overwhelms, poor workmanship or undertaking time delays (Navon, 2005). Subsequently, emerging from the creation of "white elephant" ventures, tremendous assets are squandered, business openings lost, clients get disappointed and the general advancement is hindered among others.

In spite of past examinations concentrating on Service of Transport and Foundation and its partners, none has dissected the impact of customer limit on fulfillment of streets construction extends in Kenya. The researcher was motivated to fill the knowledge gap by evaluating how the client's capacity affects completion of road construction projects in KeRRA.

### **1.3 Purpose of the Study**

The purpose of the study was to investigate the influence of client's capacity on completion of construction projects in KeRRA, Uasin Gishu Region

### **1.4 Research objectives**

This study was guided by the following research objectives:

- i. To determine the influence of human resource capacity on project completion in KeRRA, Uasin Gishu Region.
- ii. To establish how technology capacity influence project completion in KeRRA, Uasin Gishu Region.
- iii. To determine the influence of financial management capacity on project completion in KeRRA, Uasin Gishu Region.
- iv. To determine the influence of procurement capacity on project completion and delivery in KeRRA, Uasin Gishu Region.

### **1.5 Research questions**

The study was guided by the following research questions:

- i. How human resource capacity did influence project completion in KeRRA, Uasin Gishu Region?
- ii. How did technology capacity affect project completion in KeRRA, Uasin Gishu Region?
- iii. How did financial management capacity influence project completion in KeRRA, Uasin Gishu Region?
- iv. How did procurement capacity influence project completion and delivery in KeRRA, Uasin Gishu Region?

### **1.6 Significance of the Study**

The investigation decided the components influencing streets construction ventures Consumption in Uasin Gishu County in order to recognize the territories where critical activity is should have been taken to protect the enthusiasm of the sector. The examination



helps in the application of hypothetical preparing to approach producers to address handy issues in the sector and to give experiences to today's and the future directors on the significance of appropriately street construction fulfillment. The examination empowers assist scientists in the range to investigate as it's not comprehensive. The examination additionally benefits researchers who might wish to embrace additionally contemplate went for building up factors influencing streets construction ventures fulfillment. It is additionally trusted that its discoveries and suggestions will educate current practice and the pertinent specialists like the National Construction Expert (NCA), Kenya National Parkway Specialist (KENHA), Service of Open Works and KeRRA on activities that should be taken to enhance the execution rate of construction ventures.

### **1.7 Limitations of the Study**

Amid the examination the specialist was looked by the accompanying impediments; some of task's administration oppose to give data concerning the investigation. This restriction was alleviated by guaranteeing the respondents that the data given was utilized for learning purposes and would not be utilized to judge them. Because of unfriendly climate conditions in Uasin Gishu Province amid examine period a few streets were not open thus scientist confronted troubles in getting to respondents in those areas. The consider was reached amid the second quarter of the monetary year which is generally has occupied calendar subsequently many officers were not found in the workplaces, particularly individuals from the support division to answer the examination questions.

### **1.8 Delimitations of Study**

The research was done with special focus on road construction projects under KeRRA, Uasin Gishu Region. It targeted resident's engineers, assistant engineers, project managers, site engineers, project supervisors, section heads. The contents of the study were on Kenya Rural Roads Authority capacity on completion of construction projects.

### **1.9 Basic Assumptions of the Study**

The study was guided by the following assumptions;

The study assumed that the respondents were well educated, experienced that they gave them an easy task when filling the questionnaire; it was also assumed that the respondents were

honest and gave truthful responses during the process and required very minimal assistance from researcher.

There were adequate construction projects under KeRRA that can give valid information to the study on influence of Kenya Rural Roads Authority capacity on completion of construction projects.

### **1.10 Definition of Significant Terms**

**Construction Project** involves the designing, implementation, maintenance and rehabilitation of roads, bridges from beginning to completion.

**Construction project completion** this refers to successful carrying out of a construction project as per the time agreed to in the contract agreement and as captured by the project schedule, within the budget and design scope.

**Financial management capacity** refers to the efficient and effective management of funds in such a manner as to accomplish the objectives of the construction projects. It is the specialised function directly associated with the top management.

**Human resource capacity** is the stock of knowledge, habits, social and personality attributes, including creativity, embodied in the ability to perform labour so as to produce economic value.

**KeRRA capacity** can be defined as having the ability to control the accomplishment of the Project objectives.

**Procurement capacity** is the act having ability of acquiring, buying goods, services or works from an external source.

**Technological capacity** is application of new technologies in construction projects.

**Uasin Gishu Region** an area set aside showing specific roads but not fixed boundaries.

### **1.11 Organization of the Study**

Chapter one represented the background of the study, statement of the problem, the purpose of the study, research objectives, research questions, delimitation and limitation of the study, the significance of the study, research organisation and definition of operational terms as used

in the study. Chapter two reviewed related literature and also theoretical framework followed by conceptual framework. In chapter three it described research methodology of the study. Chapter four presents data analysis, results and interpretation while chapter five summarized the findings of the study undertaken, discuss and to conclude and make recommendations based on the findings of the study.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviewed both theoretical and empirical literature related to KeRRA's capacity and its impact on project completion. To understand these factors, relevant theoretical underpinnings and empirical studies were reviewed. The chapter goes on to review the independent variables in relation to the dependent variable. It also identified knowledge gaps that were as a result of analyzing the theoretical and empirical literature.

#### **2.2 Concept of Project Completion**

As indicated by Archer (2006) venture fulfillment is a controlling procedure that guarantees that task goals are accomplished by assessing and surveying progress keeping in mind the end goal to find out deviation from the arrangement for making remedial move when require be. As per Weil (2005) controlling has three stage process starting with measuring progress, assessing what stays to be done, and remedial activity to accomplish or surpass the targets. Mitnick (2005) states that the execution checking subsystem has the errand of watching the change procedure and showing deviations from the foresights to the basic leadership subsystem with a specific end goal to start restorative activity where fundamental. As indicated by Jackson (2008) in venture administration, control depends on a correlation of benchmark designs and contracts with real occasions, and choosing what to do when the two don't coordinate.

Ross (2008) indicated that the three canyons venture cost was perfectly controlled inside the acknowledged spending plan. In this way, by and by, it is conceivable to accomplish consummate control of the venture. As per Ahmad and Schroeder (2011) venture culmination is an essential pointer for the level of execution an organization can give adjust and in-time conveyances to its clients. It is a quantitative measure to benchmark an association against with regards to deciphering venture administration and execution.

#### **2.3 Concept of KeRRA Capacity**

A KeRRA is the person who starts the task and has the request to offer financing for the undertaking (Walker, 2006). The classification of KeRRA subject to which sort of activities

they included in, project esteem, aptitude/mastery and history of association's size (Pryke and Smyth, 2006). KeRRA limit can be characterized as being able to control the achievement of the task goals. By utilizing the hierarchical structures and assets that are set up, it plans to deal with the task by putting a gathering of instruments and systems, without antagonistically irritating the normal operation of the organization. A KeRRA's capacity during the time spent task improvement and execution is imperative to the accomplishment of the venture. Venture supervisors, in any case, regularly need bolster from the KeRRA association's best administration.

The KeRRA of the construction business were for the most part worried about quality, time and costs which are the parameters on which acquirement are made (Bennett and Grice, 2010). The KeRRA picture at that point has come to put in view of how it identifies with different issues concerning the venture. The KeRRA is in an unrivaled position from whatever is left of the sectors since he/she encounters building dissimilar to from the business; i.e. where the client needs a high incentive for his/her task the contractual worker is searching for a sound benefit (Chinyo & Boyed, 2006). The client qualities turn out to be more troublesome when he/she is built in an association, as the client there isn't unitary and that will cause conflict inside the undertaking (Chinyo & Boyed, 2006).

At a state of construction organize content is as often as possible related with the level of control and organization by the client him/herself. It is basic for venture group pioneers and KeRRA guarantee that KeRRA are all around joined into the task's association structure because of satisfaction at the construction arrange which is extensively connected with the level of control and supervision by the KeRRA him/herself (Walker, 2006).

Corporate client affiliations are not generally sensible for giving client organization of endeavors as the style of wander organization is likely going to be more novel than that of corporate organization generally when the last has a firm dynamic organization related with changing the objectives (Walker, 2006). Trial evidence gave an all the more capable effect of the client legitimate structure on the wander. Most client structures are particularly more baffling than is typically perceived by wander gatherings and people from wander gatherings can be worrisome of this multifaceted nature and request dealing with a singular client appoint inside whom all the internal authoritative issues of the client system can be contained. Moreover, countless issues concerning arrangement changes, deferrals and inconveniences in the midst of the improvement organize have their beginnings in the

questionable conflicts inside the client affiliation. The soonest decisions taken by the client system have more effect over the way the endeavor affiliation is formed and it's subsequent.

Winch et al. (2012) expressed that errand clients' ability and capacities with respect to directing endeavors were fundamental, however are enigmatically described, especially to deal with the affiliation. For example, in an alternate undertakings condition, proactive change organization of affiliation and process is a key activity for administering exercises and resources (Lycett et al., 2004; Winch et al., 2012b). Consequently, the all the more endeavor business has ended up being bewildering and contrasting, the more clients' inconveniences for supervising wander and empowering learning cycle have created (Greeneries, 1991; Rautiainen et al., 2000; Winch et al., 2012a). All in all, the ability to finish managerial change unclerness has transformed into the essential topic of affiliations and business visionaries, in view of a consistent prerequisite for business change (Stevenson and Starkweather, 2010). In such way, unique experts have conceptualized dynamic limit further to manage resources more enough inside a point of view of 'managing resources' and 'improving business plan', which can be perceived from an operational capacity (Helfat et al., 2007). To sum up, the general purpose of this investigation was to dismember client wander organization limit, especially because of information systems reaches out in the overall public division.

## **2.4 Review of Related Literature**

### **2.4.1 Human resource capacity and project completion**

Hansson et al. (2003) did an observational investigation of the writing to consider the impact of the speculation on HR improvement at the firm level in European nations. The aftereffects of the investigation give prove that preparation brings a ton of advantages for businesses. Pivotal proof is found in a few late papers associating preparing venture with changes in efficiency, benefit, and securities exchange execution.

Tamkin et al. (2004) concentrated basically on firms in Joined together and contended that the advantages to the firm go past the wage costs paid back to the person. High performing firms utilize preferable taught individuals over low entertainers. Better instructed workforces are related with higher profitability and other hierarchical results. Coordinated plant inquire about has proposed aptitudes are a critical part of the abilities hole with contender countries.

More elevated amounts of preparing are related with positive business benefits in a few investigations however not all. There is blended proof with respect to the sorts of preparing and their connect to business results. Results indicate reliable coaches accomplish more noteworthy returns.

Hansson (2005) dissected information on around 6,000 private sector associations in 26 nations predominantly in Europe and contend that staff turnover does not essentially influence the arrangement of preparing on a national or organization level however it is to some degree related with gainfulness. In any case, the absolute most critical factor related with gainfulness is what amount is put resources into preparing, recommending that the monetary advantages of preparing exceed the cost of staff turnover (Bassi and McMurrer, 2006).

A few examinations were done in the US by Low and Kalafut, (2002); Pfau and Kay, (2002) assert that the best human capital practices are fundamentally connected to company's available and future execution, high money related execution, representative maintenance, consumer loyalty, and efficiency. Proof has been introduced demonstrating that human capital advancement can assume a huge part in enhancing firms' monetary execution, efficiency and other key operational results.

As indicated by Arindam & Bhaumik, (2006) in a turbulent focused condition, finishing an undertaking effectively with specifically time and spending plan is a major test looked by the organizations. The accomplishment of the venture relies upon the assortment of assets, for example, physical and budgetary capital, innovation and human asset. Notwithstanding, the component of human asset isn't given much significance at the season of venture planning which is a wrong practice with respect to the task creators.

The HR office must acknowledge human capital as one of the upper hand of the firm. Supporting the reality, Clark & Colling (2005), specified that it is the duty of the firm to create human capital practices such that prompts competency improvement of the colleagues, important for the undertaking achievement. Moreover, the accomplishment of the venture and the general firm depends basically on its human asset. Subsequently, HR administrators and specialists play out a crucial part in encouraging undertaking based organizations by creating proficient HR strategies and skillful groups.

Human capital in type of powerful undertaking group works together their insight, aptitudes and capacities such that upgrades venture execution. It not just outcomes in effective finish of the venture yet in addition builds the estimation of the partners associated with the undertaking (Carole and Newell, 2007).

The examination done by Imran (2016) on effect of human capital practices on venture achievement showed that the construction organizations must acknowledges human capital as one of the fundamental factor for picking up the upper hand and regard human asset as one of the rare and key asset important to make best utilization of other money related and physical assets. In addition, human capital must be given equivalent significance by the organizations as to financial funding to guarantee extend achievement. Henceforth, the organizations must be engaged with human advancement exercises to enhance the competency level of the colleagues. The discoveries give the proof that human capital is considered as the pool of information that is obligatory for the predominant execution and culmination of venture in time. In this way, sharing of information, aptitudes and experience among the colleagues is very refreshing to guarantee human capacity building and for the effective culmination and better execution of the task. The outcomes recognizes that the organizations must put their hard endeavors in creating effective human capital arrangements and practices for making the best utilization of their HR to guarantee fruitful consummation of the venture.

As per (Unger, Rauch, and Frese, 2011 referred to Ackerman and Humphreys, 1990; Seeker, 1986) examines showed that human capital practices end up being helpful in achieving important learning, aptitudes and capacities through legitimate preparing program, cooperation in group and long range informal communication. The consequence of the examinations demonstrated that these practices create human capital as well as at last outcomes in fruitful consummation in of undertaking in time with a constrained spending plan. Hence they could be considered as the basic achievement factors vital for the task achievement that must be thought about by the organizations.

As indicated by Hiltrop (1996) a lot of confirmation is accessible that speaks to a solid positive connection between the hierarchical human capital and its execution. The emphasis on human capital in firms shows the view that market estimation of the association is less reliant on unmistakable assets, as opposed to on elusive ones, particularly HR. Association's strategies and practices that make the best utilization of this human asset are considered as the human capital practices. Enlistment and determination process alongside the maintenance



of the skilled workforce, be that as it may, is just piece of the human capital practices. The firm is additionally dependable to make the best utilization of representative's abilities and capacities by empowering both individual and authoritative learning and in addition fabricating a strong culture and condition where information and experience can be manufactures, shared and connected. Additionally, he contends that the past investigates give the steady proof about the view that the human capital approaches and practices of the firm have a positive impact in urging workers to introduce the coveted disposition and conduct required to help and actualize the aggressive methodology of an association.

Moreover, Huselid (1995), in his examination attempt to discover reply about the idea of these human capital practices. In spite of the fact that there are a lot of human capital practices, his examination uncovers that the utilization of 'human capital works one's being the basic achievement factors (counting complete representative enrollment and determination techniques, motivating force remuneration and broad representative contribution and preparing) have demonstrated a constructive outcome on the two specialists proficiency firm budgetary execution.

#### **2.4.2 Technology capacity and project implementation**

All the more as of late a ton of organizations have received innovation in their operations consequently data frameworks execution and headway has been a noteworthy business motivation in many associations. In the meantime, data frameworks and advancements have played an essential capacity to the quickly rising speed of progress (Chen et al., 2009).

Most data frameworks and innovations have changed and enhanced the entire firm and their business designs quickly. Disregarding comparative wordings of any semblance of Data Frameworks (IS), Data Innovations (IT), and Data Correspondence and Advancements (ICT) have additionally been utilized and most business visionaries have perceived the significance of this worldview; and they have attempted to comprehend and manage the data driven developing markets (Heeks, 2008; Perez, 2009).

In order to concoct new data frameworks, the type of the venture has been named as extraordinary compared to other methodologies. Particularly in the general population sector, data frameworks and applicable innovations have turned into a key component to conveying more effective administrations (Currie, 2012). On account of UK NHS IT program, for

example, KeRRA' level of desire for administrations now has expanded to include effectively in their wellbeing administration (Check, 2007). All in all, different issues, for example, frameworks change, high innovation capital products and operational data innovation foundation have been secured through the data frameworks ventures (Pellegrinelli, 1997). In such manner, the significance of authoritative contemplations has been perceived as the hugest administrative factor, while the fruitful usage of frameworks and advancements was vital customarily (Newman and Robey, 1992). In this way, numerous scientists have analyzed the data frameworks venture in people in general sector inside different points of view including associations, techniques, and legislative issues. Currie (2012) deciphers the NPfIT (National Program for Data Innovation in the UK) by applying the idea of institutional isomorphism hypothesis, and Newman and Robey (1992) see data frameworks advancement as a social procedure. Regardless of the acknowledgment of the impact of authoritative angles with regards to data frameworks venture, administrative challenges still have raised. A couple of attributes of the data frameworks condition prompt the challenges for creating and dealing with those undertakings. For instance, Davies and Hobday (2005) stress the many-sided quality of data frameworks venture by building up the idea of 'Complex items and frameworks' (e.g. modifying equipment and programming to be fitted with certain hierarchical conditions).

Currie (2012) contends that administrative clashes among a few partners basically happened on account of their endeavors to hold existing proficient predominance. Keeping in mind the end goal to comprehend these issues all the more fundamentally, Leavitt (1965) recommends socio-specialized change demonstrate recognize connections between structure, individuals, innovation and assignment and their impacts on data frameworks ventures. At that point, Lyytinen and Newman (2008) re-translate the model by stressing the hole amongst structure and innovation. As clarified over, the fundamental purpose of data frameworks venture isn't an innovation however hierarchical viewpoints. Along these lines, it is fundamental to perceive and comprehend effects of data frameworks on different components including hierarchical actuality.

Minocha (2005) cites "Data and correspondence innovation (ICT) is recognized as a compelling facilitator for enhancing data combination." They specify that online undertaking administration framework WPMS. Innovation is the gathering of systems, techniques or

procedures utilized as a part of the generation of merchandise or benefits or in the achievement of targets, for example, logical examination.

Innovation can be the learning of methods, forms, and so on or it can be implanted in machines, PCs, gadgets and processing plants, which can be worked by people without nitty gritty information of the workings of such things. Innovation has many impacts. Data Innovation has grown further developed economies (counting the present worldwide economy) and has permitted the ascent of a relaxation class (Karim and Marosszeky, 2009). Different executions of innovation impact the estimations of a general public and new innovation regularly brings up new moral issues. Cases incorporate the ascent of the thought of proficiency as far as human profitability, a term initially connected just to machines, and the test of conventional standards. Advancement is another thought, more viable gadget or process. Development can be seen as the utilization of better arrangements that meet new necessities, incoherent needs, or existing business sector needs. This is expert through more successful items, forms, administrations, innovations, or thoughts that are promptly accessible to business sectors, governments and society. The term advancement can be characterized as something unique and more powerful and, as an outcome, new, that "breaks into" the market or society. For this examination, this segment will for the most part be centered on understanding the setting of data frameworks condition. Ahead of time of that, reasonable elucidation among IS, IT, ICT will likewise be done.

#### 2.4.3 Financial Management Capacity and Project Implementation

Money related Administration on venture execution will be one of the key difficulties for companies in the following decade: just those establishments that have sound monetary structures and stable wage streams will have the capacity to satisfy their different missions and react to the present difficulties in an inexorably mind boggling and worldwide condition Anthony and Youthful (2003). Without a doubt, money related administration isn't an end in itself; it expects to guarantee an association's objectives are come to by ensuring that the foundation produces adequate pay to empower it to put resources into its future. Unsustainable undertaking operations can be suited for either by creating economical operations or by making arrangements for a future ailing in assets at present required. By and by associations for the most part tend to point towards manageability by expanding effectiveness in the path in which assets are used.

As indicated by Habeeb (2013), monetary administration is the operation of an inner control framework. Money related administration of tasks must be effectively overseen; it is a critical piece of the venture administration process and ought to be investigated by the undertaking administrator, monetary group, partners and key undertaking colleagues routinely (Weick, 2005; Backström, 2004; Ensen, 2004; van Eijnatten, 2003). By watching out for the undertaking spending plans one will be guaranteed that they are kept inside the figure set from the earliest starting point. A money related administration framework has the accompanying qualities: Physical Control, Authorisation and Endorsement control, Work force Control, Isolation of Obligations, Supervision Control, Arithmetical or Bookkeeping Control, Administration Control, Hierarchical Control. Monetary administration is a standout amongst the most vital task administration exercises expected to guarantee your undertaking is conveyed inside the cost desires set around the venture's definition (Cleland, 2009). Money related administration like any type of the control procedure isn't tied in with gathering and measuring how much cost you have consumed on the undertaking, and afterward essentially taking a gander at the financial plan and choosing what is left will 'clearly' complete the venture (Bourne and Walker, 2003). Cost control achievement factors depend on great venture control rehearses, which result in great cost and timetable results in this manner the accomplishment of the undertaking (Strogatz, 2003).

Budgetary administration checks under survey in this undertaking will incorporate planning; keeping money and consumption check Strogatz (2003). Associations are confronting challenges in regards to their planning in venture administration. Strain to complete just the ventures that will be fruitful and convey less hazard is mounting. As an undertaking chief one needs to continue planning questions and know about advantages consistently all through the task (Bourne and Walker, 2003). Great budgetary and bookkeeping frameworks are fundamental: it is basic that administration has present, exact, and important monetary information to guarantee cool headed basic leadership. Inward controls ought to be hearty and ought to be thoroughly administered Anthony and Youthful (2003). Solid money related controls support in the numbers being accounted for to administration and help secure the association's advantages. It is, in this way, vital that money related controls are recorded, surveyed, modified, tried frequently and fortified where vital. A money related exchange control is a system that is planned to distinguish or forestall blunders, misappropriations, or arrangement resistance in a budgetary exchange process. Mawanda, (2008) proposes that solid money related and bookkeeping frameworks point to responsibility. Responsibility

should be exact and convenient to help quality basic leadership. It ought to be noticed that IFRSs underline auspicious generation and introduction of monetary reports. The rule is that budgetary proclamations ought to be delivered and displayed inside three months after the conclusion of association's monetary year

Jackson (2010) set up that the most dangerous and basic piece of errand control is in assessing productivity. The assignment control division, engineers, directors are the medium of correspondence between the endeavor boss and other corporate administrators, for instance, back, honest to goodness, HR and officials. So the piece of the control gathering, boss is basic and delicate including human relationship. Regardless, this point is required to be discovered from the business. This examination would give composing and affirmation, so more imperative criticalness can be made for using bosses with appropriate aptitudes (PMI, (2007).

#### **2.4.4 Procurement Capacity and Project Completion**

Late endeavors in enhancing acquirement execution have brought about a few changes in the KeRRA and the obtainment frameworks. Be that as it may, a lot of these progressions have concentrated on the commitment and parts played by parties other than the KeRRA to the conveyance of tasks. For instance, there is developing bearing of outsourcing a portion of people in general KeRRA's exercises to the private sector by embracing incorporated acquisition frameworks (Al-Jibouri&Ogink 2009).

The physical construction acquirement very relies upon the proficiency and nature of data gave by the general population KeRRA amid the offering stage. Laryea (2011) contended that the data gave by the KeRRA isn't generally evident and satisfactory. As indicated by Watermeyer (2011) enhancing the construction stage execution begins at the outline arrange. Be that as it may, both people in general KeRRA and architects confronting troubles in anticipating plan mistakes (Lopez et al. 2010). Open KeRRA is a noteworthy procurer and can impact the market and invigorate development (Knutsson and Thomasson 2013). The administration of the undertaking prerequisites and configuration are two principle errands that impact all consequent acquirement actuates. Notwithstanding, because of open KeRRA restricted assets, some of these exercises are outsourced to consultancy firms and with a few changes in the obtainment frameworks venture outline, administration, operation and notwithstanding financing has been exchanged to the private sector.

The acquisition of an advancement plot initiates with the ID of requirements and finishes when the concurred item or/and administrations are conveyed (Watermeyer, 2011). The KeRRA builds up an arrangement of association with various associations amid the life cycle of the acquirement procedure. The KeRRA assumes a key part in uniting different gatherings at various phases of the undertaking by choosing one the normal obtainment course of action. As a rule, there are four principle acquisition courses of action KeRRA use in conveying construction ventures (Tookey et al., 2001; Masterman, 2002; Morledge and Smith 2013) which are: Isolated, Incorporated, Administration and Open Private Organization.

## **2.5 Theoretical Framework**

There are numerous hypotheses that examined customers and finish of development ventures. Be that as it may, this investigation examined hypothesis of Constraints

### **2.5.1 Theory of Constraints**

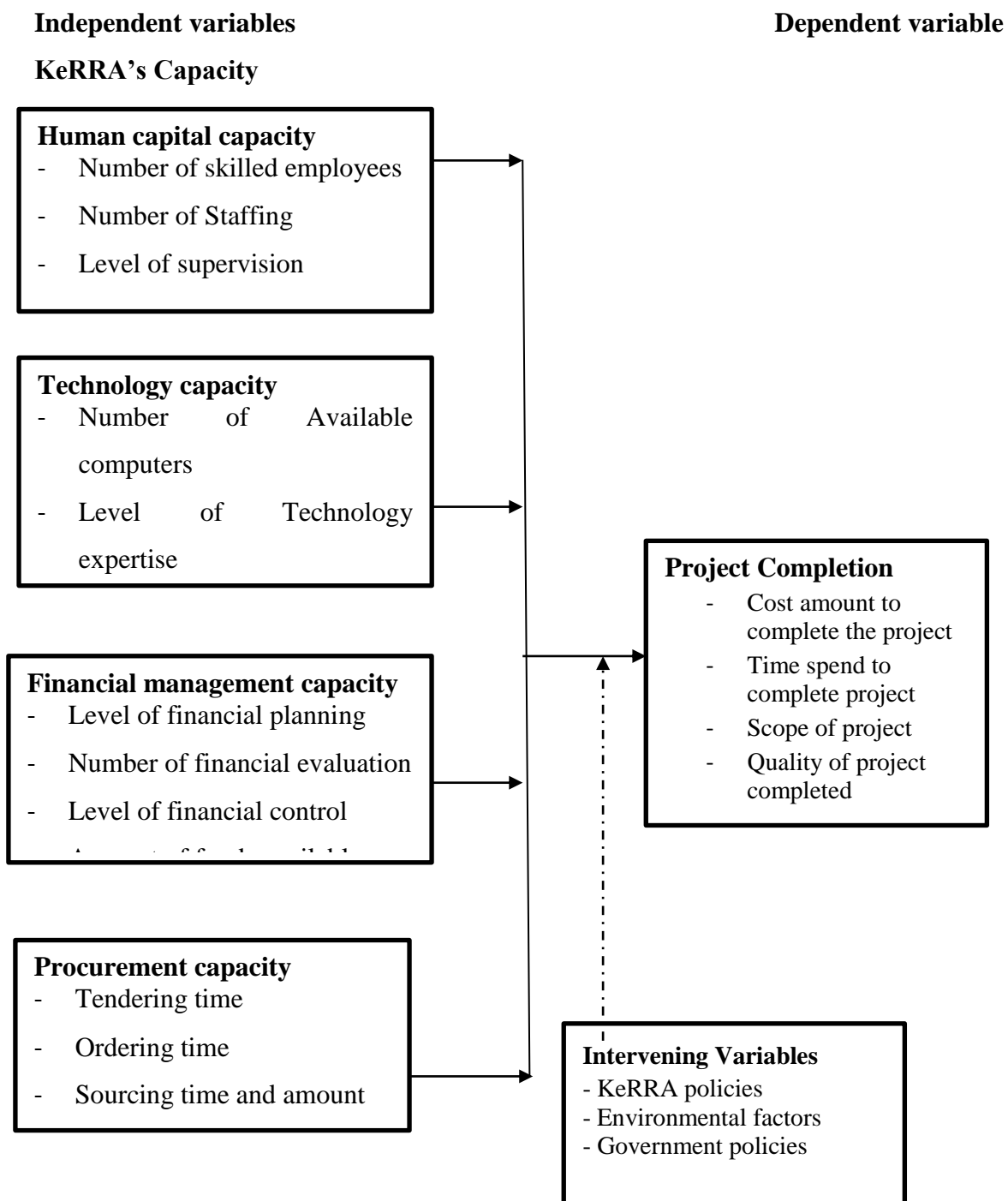
Eli (Goldratt, 1984) started the Hypothesis of Limitations (TOC) and based this organization speculation that every system has no short of what one prerequisite confining it from getting a more noteworthy measure of what it tries. If this were not legitimate, by then the system would make huge yield. The TOC has been associated with age masterminding, creation control, wander organization, stock system organization, accounting and execution estimation, and diverse scopes of business and likewise such not-income driven workplaces as recuperating offices and military terminals. These constraints choose the yield of a system whether they are perceived or not. Along these lines, it is in a chief's best energy to perceive and decrease the system prerequisites inside the affiliation.

The TOC is both particular and prescriptive in nature; it portrays the explanation behind system necessities and additionally provides guidance on the most ideal approach to decide them. This theory insinuates systems in relationship as chains. A structure is a social event of interrelated, self-sufficient systems that participate to hand commitments to yields over the mission for some goal. The weakest association is the basic that shields the system from doing any better at fulfilling its target this theory can be associated with factors that add to the deferral in culmination of road advancement wanders. The closeness of any one factor in the endeavor will cause delays in its climax. In this way it is the commitment of the assignment gatherings to perceive such factors and search for ways to deal with keep up a key separation from or restrain them for effective completing of endeavors.

## 2.6 Conceptual Framework

The conceptual framework is meant to demystify the relationship between research variables. The independent variables which Human resource capacity, Technology capacity, Financialmanagement capacity and Procurement capacity while the Dependent variable are Project Completion. The relationships between these variables are illustrated in figure 2.1

**Figure 2.1 Conceptual Framework**



## 2.7 Summary of Literature

Wander completing is an imperative pointer for the level of execution an association can give review and in-time movements to its KeRRA (Ahmad and Schroeder, 2011) communicated that. It is a quantitative measure to benchmark a relationship against with respect to disentangling wander organization and execution. A client's ability amid the time spent wander progression and execution is basic to the accomplishment of the errand. The clients of the advancement business were generally stressed over quality, time and costs which are the parameters on which securing are made (Bennett and Grice, 2010). The client picture by then has come to put in perspective of how it relates to various issues concerning the endeavor. The client is named to be in a predominant position from the straggling leftovers of the business since he/she experiences building not the same as the business; for example, where the client needs a high impetus for his endeavor the authoritative laborer is hunting down a sensible advantage (Boyed and Chinyo, 2006). The client ascribes end up being more flighty when he is produced in a relationship, as the client there isn't unitary and that will cause battle inside the wander (Boyed and Chinyo, 2006).

Human capital in kind of intense wander assemble collaborates their understanding, aptitudes and limits with the end goal that enhances wander execution. It not only results in compelling satisfaction of the endeavor yet furthermore extends the estimation of the accomplices related with the wander (Carole and Newell, 2007). The examination done by Imran (2016) on impact of human capital practices on wander accomplishment exhibited that the improvement associations must recognizes human capital as one of the fundamental factor for getting the high ground and see human resource as one of the uncommon and basic resource essential to make best usage of other budgetary and physical resources. Also, human capital must be given proportional centrality by the associations as to money related income to ensure broadening accomplishment. From this time forward, the associations must be related with human progression activities to improve the competency level of the partners. The disclosures give the affirmation that human capital is considered as the pool of discovering that is necessary for the predominant execution and culmination of undertaking in time. Therefore, sharing of learning, aptitudes and experience among the partners is significantly invigorating to ensure human limit building and for the productive complete and better execution of the endeavor. The results perceives that the associations must put their hard



undertakings in making capable human capital courses of action and practices for making the best usage of their HR to ensure productive completing of the wander.

Most information structures and headways have changed and upgraded the whole firm and their business outlines rapidly. Despite relative wordings of any similarity of Data Frameworks (IS), Data Advances (IT), and Data Correspondence and Innovations (ICT) have in like manner been used and most specialists have seen the essentialness of this perspective; and they have tried to understand and deal with the information driven creating markets (Heeks, 2008; Perez, 2009).

Cash related Administration on wander execution will be one of the key troubles for ventures in the next decade: simply those associations that have sound budgetary structures and stable compensation streams will have the ability to fulfill their various missions and respond to the present challenges in an unyieldingly astounding and overall condition Anthony and Youthful (2003). No ifs ands or buts, money related organization isn't an end in itself; it intends to ensure an affiliation's targets are come to by guaranteeing that the foundation produces satisfactory pay to enable it to place assets into its future. Unsustainable wander operations can be obliged for either by making viable operations or by preparing for a future sickly in resources at show required. Before long affiliations by and large tend to point towards practicality by extending capability in the course in which resources are utilized.

The physical improvement acquisition exceptionally depends upon the viability and nature of information gave by the overall public client in the midst of the offering stage. Laryea (2011) fought that the information gave by the client isn't for the most part certain and adequate. According to Watermeyer (2011) upgrading the improvement organizes execution starts at the framework orchestrate. Regardless, both the all-inclusive community clients and fashioners going up against inconveniences in checking layout bungle (Lopez et al. 2010). Open KeRRA is an important procurer and can affect the market and quicken progression (Knutsson and Thomasson 2013). The organization of the wander requirements and setup are two essential errands that affect all subsequent securing starts. Regardless, in view of open client compelled resources, some of these activities are outsourced to consultancy firms and with a couple of changes in the procurement systems wander design, organization, operation and despite financing have been traded to the private division. Most of the researched composing is from business fragment and besides from made countries whose key approach and cash related adjust is extraordinary in connection to that of Kenya. In this way, there is a

written work opening on the subject in the Kenyan condition. This examination hence tried to fill this hole by building up impact of Kenya Country Streets Expert limit on culmination of construction ventures Uasin Gishu district, Kenya.

## **2.8 Knowledge Gap**

Nguyen et al (2004), Arslan and Kivrak (2008), Salleh (2009), Fugar and Agyakwah-Baah (2010), in their studies study on project critical success factors in large construction projects in Vietnam, came up with 5 critical success factors, namely: competent project manager, adequate funding until project completion, multidisciplinary/competent project team, commitment to project and availability of resources. But these are not the only factors which should be considered in construction since there are many other which also contribute to the completion of the project. According to Nwachukwu, Echeme and Okoli (2010), Fugar and Agyakwah-Baah (2010), Grosskopf (2005), achieving successful completion in the building development process is the major function of project management. Schwalbe (2009) looks at the time planning management as that process that leads to the generation of a milestone list, a network diagram, the activity resource requirements, the activity duration estimates and a project schedule. In addition to this study, project completion does not only depend on the time factor only but there are other basic factors that aid to its completion.

In the study, the researcher addressed the four variables that aid in successful project completion that include financial management, human resource capacity, technology capacity, procurement capacity. This study was mainly base in the African context specifically Kenya Rural Roads Authority (KERRA), Uasin Gishu Region in Kenya where the other researchers did not base their facts.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The chapter describes the methodology which was adopted by the study. It describes the research design, study target population, sample size, sampling techniques, study data collection instrument, piloting, validity, reliability of the instrument, study data collection procedure and study data analysis techniques used.

#### **3.2 Research Design**

The research used descriptive survey design, because descriptive research does not involve modifying the situation under study or determining the cause-effect relationship. It also helped the researcher to obtain the opinions of project managers involved in construction projects in their natural setting. This design was also useful in management decision making. It involved acquiring information about a certain segment of the population and getting information on their characteristics, opinions or attitudes (Orodho, 2003). Churchill and Brown (2004) also observed that descriptive research design was appropriate where the study sought to describe the characteristics of certain groups, estimated the proportion of people who have certain characteristics and make predictions.

#### **3.3 Target Population**

The target population is the specific population where information is desired. Denscombe (2008) defined population as a well-defined set of services, people, elements, and group of things, events or households being investigated by study. The study will target a population of 170 respondents who constitute of Technical staff and Non - technical staff.

**Table 3.1 Target population**

| <b>Categories</b>            | <b>Target</b> |
|------------------------------|---------------|
| <b>Technical staff</b>       |               |
| Resident engineers           | 8             |
| Assistant engineers          | 16            |
| Materials engineers          | 8             |
| Inspectorate                 | 34            |
| Surveyors                    | 72            |
| <b>Non - technical staff</b> |               |
| Project managers             | 8             |
| Procurement                  | 8             |
| Administrators               | 8             |
| Accountants                  | 8             |
| <b>Total</b>                 | <b>170</b>    |

**Source (KeRRA, 2016 – 2017)**

### **3.4 Sampling size and Sampling procedure**

#### **3.4.1 Sample size**

According to Churchill & Brown (2004) the correct sample size for a study is dependent on factors such as the population nature to be studied, the drive of the study, the number of variables in the study, the type of research design, the method of data analysis and the size of the accessible population. The sample size of the study will be 118 this was derived using Krejcie & Morgan table (attached in appendix).

#### **3.4.2 Sample procedure**

Cooper & Schindler (2003) defined simple random sampling technique as a process of systematically obtaining and recording data about participants of a given population. This defined population is referred to as a sampling frame. Under this method, data is collected for each and every unit. Thus this study applied simple random sampling where it gave respondents equal of being selected. The sample size from different target population was obtained proportionally as shown in table 3.2

**Table 3.2 Proportionate simple random sampling**

| <b>Categories</b>   | <b>Target</b> | <b>Proportion</b> | <b>Sample size</b> |
|---------------------|---------------|-------------------|--------------------|
| Resident engineers  | 8             | $8/170*118= 5$    |                    |
| Assistant engineers | 16            | $16/170*118= 12$  |                    |
| Materials engineers | 8             | $8/170*118= 5$    | $138/170*118 = 96$ |
| Inspectorate        | 34            | $34/170*118= 24$  |                    |
| Surveyors           | 72            | $72/170*118= 50$  |                    |
|                     | <b>138</b>    |                   |                    |
| Project managers    | 8             | $8/170*118= 6$    |                    |
| Procurement         | 8             | $8/170*118= 6$    |                    |
| Administrators      | 8             | $8/170*118= 5$    | $32/170*118 = 22$  |
| Accountants         | 8             | $8/170*118= 5$    |                    |
|                     | <b>32</b>     |                   |                    |
| <b>Total</b>        | <b>170</b>    |                   | <b>118</b>         |

(KeRRA, 2016 – 2017)

### 3.5 Research instruments

Data collection was done through questionnaires from selected respondents. Questionnaires entailed both open and closed ended questions designed to elicit specific responses. The questionnaires were administered by the researcher.

The questionnaire utilized five point Likert scale entailing of (SA=Strongly Agree, A=Agree, N=Neutral, D=Disagreed and SD=Strongly Disagree) which were assigned scores of between 1 and 5. This allowed the researcher to draw conclusions based on comparisons made from the responses. The researcher opted to use questionnaires so as to collect lots of information within a very short time. Also, questionnaires compared with other data collection techniques were less costly to administer as supervision or follow up of respondents was not required. Pre-testing of questionnaires in the field was used as a means of improving the quality of questions before the main study (Schindler, 2004).

#### 3.5.1. Pilot study

The researcher piloted instruments by distributing 20 questionnaires to respondents in KeRRA Kisumu region selected randomly from the various sections, which were not part of the region sampled for this study in order to determine reliability of the study instruments.

The pilot respondents represented 16.7% of the sample size. The outcomes of the piloted questionnaires helped the researcher to ascertain the consistency of responses to made by respondents and adjust the research items accordingly by revising the research tools.

### 3.5.2. Validity

The content validity of the questionnaire was determined by the researcher by seeking the views of experts study field, especially the University of Nairobi lecturers. Validity related to the degree to which the research information and the methods for acquiring the data were honest, accurate, and targeted one (Denscombe 2003). Before using a research instrument it was important to ensure that it had some validity.

### 3.5.3 Reliability

Orodho, (2009), defined reliability as a measure of the degree to which a research instrument yields consistent results or data after repeated trials. According to Pallant (2011) when using the Cronbach’s Alpha coefficient value to test reliability, a value above 0.7 is considered acceptable; however, a value above 0.8 is preferable. This method requires neither the splitting of items into halves nor the multiple administrations of instruments. The internal consistency method provided a unique estimate of reliability for the given test administration. Before the instruments were used for collecting the data, a pilot study was conducted in KeRRA Kisumu region. The respondents used for piloting did not take part in the study. Once the questionnaires were constructed, they tried out in the field. Piloting is a vital component for any good study design. Pilot studies fulfill variety of significant functions and can deliver valuable insight for other scholars. The key aim of piloting was to make sure that the research plan actually worked.

The results of the reliability tests for this study were as shown in the table 3.3;

**Table 3.3 Reliability Test**

| <b>Reliability Statistics</b> |                   |
|-------------------------------|-------------------|
| <b>Cronbach's Alpha</b>       | <b>N of Items</b> |
| <b>0.706</b>                  | <b>4</b>          |

This implies that the data used were reliable to be used for the study

### **3.6 Data collection procedure**

Upon getting the consent of the University, the consent of the supervisors and obtaining permission from NACOSTI, the researcher proceeded to getting permission from the county offices and the relevant KeRRA authorities. On the set date, questionnaires were administered directly to the respondent using drop and pick method and a follow up was conducted by the researcher to ensure the questionnaires are filled in accordance with the research. The participants were allowed enough time to fill the copies of the questionnaires before picking for analysis. The questionnaire comprised of both closed and open-ended questions. This enabled the participants to give their own opinions. The researcher explained the purpose of the visit to the respondents. This assured the respondents of their confidentiality of any information they give.

### **3.7 Data Processing and Analysis**

After data collection, the data was organised and edited to remove any inconsistencies, repetitions or errors that made analysis difficult. The data was analysed in the most logical and meaningful way and relevant comments made appropriately. Descriptive statistics was used to analyse the data with the aid of the Statistical Package for Social Sciences (SPSS) version 21 which was used in the analysis. Descriptive statistics included frequency, percentages and frequency distribution. Tables were used to summarise responses for further analysis and to facilitate comparison.

### **3.8 Ethical Consideration in the Study**

Confidentiality of respondents in the study was strictly observed at all times all through the course of study and follows the study and publication of the results. According to Callanan (2008), the physical and psychological safety of each subject is of utmost importance. Every effort was made in the design and review of the design to develop appropriate protection measures all communication and relationships encountered during the full course of the study which was conducted in a professional and ethical manner with the highest regard for honest and principled behaviours and research standards. Participants were instructed that they are free to withdraw their consent and discontinue participation in the project at any time. The anonymity of all participants who agreed to continue with the study was being protected in the absence of specific authorization for disclosure.

### 3.9. Operationalization of variables

| <b>Objectives</b>   | <b>Type of variables</b>                             | <b>Indicator</b>   | <b>Measure</b>     | <b>Data analysis technique</b> | <b>Research instrument</b> |
|---|--|--|--------------------|--------------------------------|----------------------------|
| To determine the influence of human resource capacity on project completion in KeRRA, Uasin Gishu Region        | Independent variable (human resource capacity)       | Skilled employees<br>Staffing<br>Supervision   | Interval & ordinal | Descriptive                    | Questionnaire              |
| To establish the influence of technology capacity affects project completion in KeRRA, Uasin Gishu Region.      | Independent variable. (technology capacity)          | Availability of computers<br>Technology expertise<br>MIS<br>Software management          | Interval & ordinal | Descriptive                    | Questionnaire              |
| To determine the influence of financial management capacity on project completion in KeRRA, Uasin Gishu Region. | Independent variable (financial management capacity) | Financial planning<br>Financial evaluation<br>Financial control<br>Availability of funds | Interval & ordinal | Descriptive                    | Questionnaire              |
| To determine the influence of procurement   | Independent variable                                 | Tendering<br>Ordering  | Interval & ordinal | Descriptive                    | Questionnaire              |



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capacity on (procurement Sourcing  
project nt capacity)  
completion and  
delivery in  
KeRRA, Uasin  
Gishu Region

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## CHAPTER FOUR

### DATA ANALYSIS, PRESENTATION AND INTERPRETATION

#### 4.1 Introduction

The study sought to find out the influence of Kenya Rural Roads Authority capacity on completion of construction projects Uasin Gishu region, Kenya. This chapter presents Data Analysis, Results and interpretation.

#### 4.2 Response Rate

The sample of the study was 118 respondents but data was collected from 110 respondents. Data collected was used for analysis to get required information. This represented a response rate of 93.2 percent. The data collected was, therefore, valid for analysis and generalization (Sissel, 2007).

#### 4.3 Descriptive Statistics Results

##### 4.3.1 Gender of the Respondents

The study sought to establish the gender of the respondents. The findings were presented in table 4.1;

**Table 4.1 Analysis of the gender of the Respondents**

| <b>Gender</b> | <b>Frequency</b> | <b>Percent</b> |
|---------------|------------------|----------------|
| Male          | 60               | 54.5           |
| Female        | 50               | 45.5           |
| <b>Total</b>  | <b>110</b>       | <b>100</b>     |

The study findings on gender (table 4.1) indicated that 60 (54.5%) of the respondents were male as opposed to 50 (45.5%) female. This implies despite majority of the respondents were male, the gender was well represented and there were no biasness.

### 4.3.2 Years of working experience of the Respondents KeRRA

The study sought to establish the years of working experience the respondents. The findings were presented in table 4.2;

**Table 4.2 Analysis of Years of working experience of the Respondents**

| <b>Years</b>  | <b>Frequency</b> | <b>Percent</b> |
|---------------|------------------|----------------|
| <= 3 years    | 21               | 19.2           |
| 3- 6 years    | 70               | 63.6           |
| Above 6 years | 19               | 17.2           |
| <b>Total</b>  | <b>110</b>       | <b>100</b>     |

As regards to the years of working experience of the respondents (table 4.2), the study results revealed that majority of the respondents 70 (63.3%) had worked with KeRRA projects for a period of 3-6 years, 21 (19.1%) of the respondents had worked with KeRRA projects for a period of <= 3 years, and 19 (17.2%) of the respondents had worked with KeRRA projects for a period of above 6 years. This could be interpreted to mean the study was not biased towards years of working experience.

### 4.3.3 Number of projects implemented by the Respondents

The study sought to establish the Number of projects implemented by the Respondents. The findings were presented in table 4.3;

**Table 4.3 Analysis of Number of projects implemented by the Respondents**

| <b>Number of projects</b> | <b>Frequency</b> | <b>Percent</b> |
|---------------------------|------------------|----------------|
| 1-3                       | 20               | 18.2           |
| 4-6                       | 67               | 60.9           |
| 7 and above               | 23               | 20.9           |
| <b>Total</b>              | <b>110</b>       | <b>100</b>     |

As regards to the projects implemented with KeRRA (table 4.3), the study results revealed that 67 (60.9%) of the respondents had implemented 4-6 projects with KeRRA, 23 (20.9%) had implemented 7 and above projects with KeRRA while 20 (18.2%) had implemented 1-3

projects with KeRRA. This implies that majority of the respondents had implemented more than 4 projects with KeRRA. The respondents therefore understood the milestones of the construction projects as regards to projects completion.

#### 4.3.4 Training on Project Completions

The study sought to establish the training on project completions to Respondents by KeRRA. The findings were presented in table 4.4;

**Table 4.4 Analysis of training of the Respondents**

| <b>Trained</b> | <b>Frequency</b> | <b>Percent</b> |
|----------------|------------------|----------------|
| Yes            | 77               | 70             |
| No             | 33               | 30             |
| <b>Total</b>   | <b>110</b>       | <b>100</b>     |

As regards to the training on projects (table 4.4), the study findings revealed that 77 (70.0%) of the respondents indicated that they have been trained on projects, while 33(30.0%) of respondents noted that they have not been trained on the project’s completion. This implies that majority of the respondents had been trained on projects completions done in KeRRA. The respondents therefore understood the milestones of the construction projects as regards to projects completion.

#### 4.4 Analysis of the Key Variables

In this section, the study analyzes the specific objectives of the study regarding the influence of Kenya Rural Roads Authority capacity on completion of construction projects Uasin Gishu region, Kenya. These specific objectives relate to human resource capacity and technology capacity, financial management, procurement capacity and intervening variables.

##### 4.4.1 Influence of Human resource capacity on Project Completion in KeRRA

The study sought to establish the influence of human resource capacity on project completion in KeRRA. The findings were analyzed as shown in the table 4.5;

**Table 4.5 Influence of Human resource capacity on Project Completion in KeRRA**

| Statements  |   | SD  | D   | UD  | A    | SA   | Total |
|---|---|-----|-----|-----|------|------|-------|
| KeRRA must ensure that their employees are skilled so as to ensure quality project is done in time and with correct amount of money allocated for the project             | F | 0   | 0   | 1   | 50   | 59   | 110   |
|   | % | 0.0 | 0.0 | 0.9 | 45.5 | 53.6 | 100.0 |
| KeRRA must ensure that there is project supervision in order to monitor how funds of project are spent until completion as well to ensure quality project is done in time | F | 0   | 0   | 0   | 43   | 67   | 110   |
|   | % | 0.0 | 0.0 | 0.0 | 39.1 | 60.9 | 100.0 |
| Most of the employees are highly qualified to implement quality project and within required time  | F | 0   | 0   | 0   | 43   | 67   | 110   |
|   | % | 0.0 | 0.0 | 0.0 | 39.1 | 60.9 | 100.0 |
| KeRRA pays its employees fairly without favor which motivate them to complete quality project within time   | F | 0   | 0   |     | 46   | 64   | 110   |
|   | % | 0.0 | 0.0 |     | 41.8 | 58.2 | 100.0 |

The study results (table 4.5) shows 59(53.6%) of the respondents strongly agree and 50(45.5%) agree that KeRRA must ensure that their employees are skilled so as to ensure quality project completion in time and with correct amount of money for the project. Cumulatively this represents 109(99.1%) of the respondents. Only 1(0.9%) of the respondents were undecided with this statement. Further 67(60.9%) and 43(39.1%) respectively of the respondents strongly agree and agree that KeRRA must ensure that there is supervision in order to monitor how funds of project are spent until completion as well to ensure quality project completion in time. There were none of respondents who were undecided, disagree and strongly disagree on KeRRA must ensure that there is supervision in order to monitor how funds of project are spent until completion as well to ensure quality project completion in time.

Also the study findings indicated that 67(60.9%) and 43(39.1%) of respondents strongly agree and agree respectively that most of the employees are highly qualified to implement quality project and within required time. None of respondents were undecided, disagree and strongly disagree on the statement. 64(58.2%) of the respondents strongly agree while 46(41.8%) of respondents agree with the statement stating that KeRRA pays its employees fairly without favor which motivate them to complete quality project within time.

The finding of this study on influence of Human resource capacity on Project Completion in KeRRA implies that for project to be implemented well there must be human capital. However, there should only be human capital but there should be highly qualified employees in the project who understands well about to be done in construction projects with right tools and time. This shows that highly educated workforces are associated with higher productivity and other organizational outcomes.

Study findings by Tamkin *et al.* (2004) agree with the findings employees should be highly qualified to implement the project well. They argued that the advantages to the firm go beyond the salary costs waged back to the employees. High performing firms utilize preferable instructed individuals over low performers. Educated workforces are related with higher profitability and other firm's results. Coordinated plant investigate has recommended abilities are an essential part of the aptitudes hole with contender countries. Larger amounts of preparing are related with positive business benefits in a few examinations yet not all. There is blended proof in regards to the sorts of preparing and their connect to business results. Results demonstrate reliable mentors accomplish more noteworthy returns.

Another study by Low & Kalafut, (2002) agrees with the findings that employees should be highly qualified to implement the project well. They assert that the highly competent human capital does are positively correlated to firm’s present and forthcoming performance, customer satisfaction, productivity, high financial performance, and employee retention. There is evidence showing that human capital growth plays an important role in enhancing firms’ financial performance, productivity and other important operational outcomes.

#### 4.4.2 Technology Capacity and Project Implementation

The study sought to investigate the effect of technology capacity on project implementation. The results were analyzed in the table 4.6;

**Table 4.6 Technology Capacity and Project Implementation**

| Statements   |   | SD  | D   | UD  | A    | SA   | Total |
|--|---|-----|-----|-----|------|------|-------|
| KeRRA uses modern computers for all its operations which ensure quality and timely projects completion   | F | 0   | 1   | 2   | 43   | 64   | 110   |
|  | % | 0.0 | 0.9 | 1.8 | 39.1 | 58.2 | 100.0 |
| KeRRA uses high tech facilities such trucks, graders, excavators which influence the time spent to complete the project                                    | F | 0   | 0   | 0   | 44   | 66   | 110   |
|  | % | 0.0 | 0.0 | 0.0 | 40.0 | 60.0 | 100.0 |
| KeRRA uses project management system for its operations to influence the quality and timely completion of projects   | F | 0   | 0   | 3   | 50   | 57   | 110   |
|  | % | 0.0 | 0.0 | 2.7 | 45.5 | 51.8 | 100.0 |
| KeRRA has strong internet connection which help in communications and coordination of project progress to ensure quality and timely completion of projects | F | 2   | 0   | 1   | 46   | 61   | 110   |
|  | % | 1.8 | 0.0 | .9  | 41.8 | 55.5 | 100.0 |

The study results (table 4.6) shows that 64(58.2%) and 43(39.1%) of the respondents strongly agreed and agreed that KeRRA uses modern computers for all its operations which ensure quality and timely completion of the projects. However 2(1.8%) of the respondents neither agreed nor disagreed with this statement while 1(0.9%) of the respondents disagreed that KeRRA uses modern computers for all its operations which ensure quality and timely completion of the projects. 44(40.0%) and 66(60.0%) of the respondents agreed and strongly agreed that KeRRA uses high tech facilities such trucks, graders, excavators which influence the time spent to complete the project. However, none of respondents neither undecided nor disagreed and that the KeRRA has high tech facilities such trucks, graders, excavators which influence the time spent to complete the project.

On whether the KeRRA uses project management system for its operations to influence the quality and timely completion of projects shows that 57 (51.8%) of the respondents strongly agreed while 50(45.5%) or respondents agreed with the statement. However 3(2.7%) of the respondents neither agreed nor disagreed with statement that firm uses project management system for its operations to influence the quality and timely completion of projects. 61(55.5%) of the respondents strongly agree and 46(41.8%) agree that KeRRA has strong internet connection which help in communications and coordination of project progress to ensure quality and timely completion of projects. Cumulatively this represents 97.3% of the respondents. Only 1(0.9) % of the respondents neither agreed nor disagreed and 2(1.8) % of respondents strongly disagree with this statement.

The study findings imply that with adoption of new technology in KeRRA constructions sector in the region has enhanced the quality and timely completions of projects. The availability and use of high tech facilities such trucks, graders, excavators in the region has positively impacted the project completion in time and quality one. The use of technology in constructions projects has improves better coordination and communication among project teams and participants. It has increased the speed of communication and decreases documentation errors.

#### **4.4.3 Financial Management Capacity and Project Implementation**

The study sought to establish the influence of financial Management Capacity on Project Implementation. The results were analyzed in the table 4.7;



**Table 4.7 Financial Management Capacity and Project Implementation**

| Statements  |   | SD  | D   | UD  | A    | SA   | Total |
|---|---|-----|-----|-----|------|------|-------|
| Level of financial planning at KeRRA influence the amount of money to be spent and quality of project to be completed   | F | 1   | 7   | 2   | 70   | 30   | 110   |
|   | % | 0.9 | 6.4 | 1.8 | 63.6 | 27.3 | 100.0 |
| KeRRA must ensure that there is availability of funds which influence the cost to be incurred to complete the project and also the quality of project completed | F | 1   | 3   | 1   | 60   | 45   | 110   |
|   | % | 0.9 | 2.7 | 0.9 | 54.5 | 40.9 | 100.0 |
| By KeRRA ensuring that there is financial control leads to quality project completion and also results to correct cost incurred in completing the project       | F | 0   | 2   | 1   | 64   | 43   | 110   |
|   | % | 0.0 | 1.8 | 0.9 | 58.2 | 39.1 | 100.0 |
| KeRRA has a financial system which assists me to know the state of payment transactions in process of completing the project                                    | F | 1   | 3   | 5   | 65   | 36   | 110   |
|   | % | 0.9 | 2.7 | 4.5 | 59.1 | 32.7 | 100.0 |

The study findings on financial management capacity and project implementation (table 4.7) revealed majority of respondents; 70(63.6%) agree while 30(27.3%) strongly agree that the level of financial planning at KeRRA influence the amount of money to be spent and quality of project to be completed. However, 2(1.8%) of the respondents neither agreed nor disagreed that the level of financial planning at KeRRA influence the amount of money to be spent and quality of project to be completed. While 7(6.4%) and 1(0.9%) of respondents disagree and strongly disagree respectively that the level of financial planning at KeRRA influence the amount of money to be spent and quality of project to be completed.

Majority of the respondents 60(54.5%) agree that KeRRA must ensure that there is availability of funds which influence the cost to be incurred to complete the project and also the quality of project completed with 45(40.9%) of the respondents strongly agreeing with the statement. However, 1(0.9%) of respondents neither agreed nor disagreed that KeRRA must ensure that there is availability of funds which influence the cost to be incurred to complete the project and also the quality of project completed. Only 3(2.7%) and 1(0.9%) of the respondents disagree and strongly disagreed respectively that KeRRA must ensure that there is availability of funds which influence the cost to be incurred to complete the project and also the quality of project completed.

Table 4.7 also shows that majority 64(58.2%) of the respondents agreed while 43(39.1%)strongly agree that by KeRRA ensuring that there is financial control leads to quality project completion and also results to correct cost incurred in completing the project. 1(0.9%)of respondents neither agree nor disagree with the above statement. Only 2(1.8%)disagreed that by KeRRA ensuring that there is financial control leads to quality project completion and also results to correct cost incurred in completing the project.

Lastly, 65(59.1%) of respondents agreed that KeRRA has a financial system which assists me to know the state of payment transactions in process of completing the project, 36(32.7%) of respondents strongly agreed. Only 3(2.7%) and 1(0.9%) disagree and strongly disagree with this statement respectively. 5(4.5%) of respondents neither agree nor disagree with the above statement.

The study findings gives the implication that without proper financial controls the projection might not be completed because of fund misappropriations or misuse leading to fewer amounts to complete the project. Hence, there is need for proper monitoring and evaluation of project and project financials in order for the project to be completed.

Study findings by Habeeb (2013) (Weick, 2005; Backström, 2004 Ensen, 2004; van Eijnatten, 2003) are in line with these findings that there should be financial control so as to ensure project completion. They noted that project's financial management should be actively managed because it's significant part of the project management procedure and must be appraised by the financial team, project manager, key project team members regularly and stakeholders. By watching on the budgets of project one is assured that they are kept inside the estimate set from the start. Financial management system contains the characteristics as follows: Authorisation and Approval regulator, Physical Regulator, Personnel Regulator,

Segregation of Responsibilities, Supervision Regulator, Accounting Regulator, Management Controller and Organizational Regulator.

Cleland (2009) concurs with this study that budgetary administration is among the most fundamental undertaking administration exercises which are required all together for the venture to be conveyed inside the normal cost recorded by the task's portrayal. Money related administration like any type of control methodology isn't tied in with social affair and measuring how much cost you have consumed on the undertaking, and afterward just taking a gander at the financial plan and choosing what is left will 'clearly' complete the venture (Bourne and Walker, 2003). Cost control achievement factors depend on great task control rehearses, which result in great cost and timetable results in this way accomplishment of the venture (Strogatz, 2003).

#### 4.4.4 Procurement Capacity and Project Completion

The study sought to establish the influence of procurement capacity on project completion. The results were analyzed in the table 4.8;

**Table 4.8 Procurement Capacity and Project Completion**

| Statements   |   | SD  | D   | UD  | A    | SA   | Total |
|--|---|-----|-----|-----|------|------|-------|
| Tendering on time of all inventory determine the time spent to complete the project through supplementary budget         | F | 0   | 1   | 3   | 65   | 41   | 110   |
|  | % | 0.0 | 0.9 | 2.7 | 59.1 | 37.3 | 100.0 |
| KeRRA should ensure that all inventory are ordered on time to ensure project completion                                  | F | 0   | 2   | 2   | 58   | 48   | 110   |
|  | % | 0.0 | 1.8 | 1.8 | 52.7 | 43.6 | 100.0 |
| KeRRA should ensure that all inventory are sourced on time so as to ensure project completion                            | F | 0   | 1   | 3   | 52   | 54   | 110   |
|  | % | 0.0 | 0.9 | 2.7 | 47.3 | 49.1 | 100.0 |
| Electronically sourcing materials and payments of suppliers ensure time spent is minimal hence project completed on time | F | 1   | 1   | 3   | 50   | 55   | 110   |
|  | % | 0.9 | 0.9 | 2.7 | 45.5 | 50.0 | 100.0 |

The study findings (table 4.8) revealed that majority 65(59.1%) of the respondents agreed that tendering on time of all inventory determine the time spent to complete the project

through supplementary budget while 41(37.3%). However 3(2.7%) of the respondents neither agreed nor disagreed with this statement while 1(0.9% of the respondents disagreed that tendering on time of all inventory determine the time spent to complete the project through supplementary budget. 2(1.8%) of the respondents neither agreed nor disagreed that the KeRRA should ensure that all inventory are ordered on time to ensure project completion. However 106(96.3%) of the respondents cumulatively agreed and strongly agree that KeRRA should ensure that all inventory are ordered on time to ensure project completion. Only 2(1.8%) disagree with the statement.

On the statement KeRRA should ensure that all inventory are sourced on time so as to ensure project completion, 54(49.1%) of the respondents strongly agreed while 52(47.3%) agreed with statement. However, 3(2.7) % of the respondents neither agreed nor KeRRA should ensure that all inventory are sourced on time so as to ensure project completion. 1(0.9%) of the respondents disagreed that KeRRA should ensure that all inventory are sourced on time so as to ensure project completion.

The study findings indicated that 55(50.0%) of respondents strongly agreed electronically sourcing materials and payments of suppliers ensure time spent is minimal hence project completed on time, 50(45.5%) agreed with the statement. However, 3(3.7%) of respondents neither agree nor disagree with the statement. Cumulatively 2(1.8%) of respondents disagree and strongly disagree that electronically sourcing materials and payments of suppliers ensure time spent is minimal hence project completed on time, 50(45.5%) agreed with the statement.

The study finding implies that for project completion to be successful there should be good planning including looking for best source of inventory. Also there must be good timing of sourcing inventories in order to ensure that each inventory arrived in time and be used to accomplish the task at appropriate time. This information's might be received from KeRRA.

Study results by Watermeyer (2011) concur with these findings that all inventories ought to be sourced on time to guarantee extend culmination. He showed that the obtainment of an advancement conspire begins with the distinguishing proof of necessities and finishes when the concurred item or/and administrations are conveyed. The customer builds up an arrangement of association with various associations amid the life cycle of the acquisition procedure. The customer assumes a key part in uniting different gatherings at various phases of the task by choosing one the regular obtainment course of action. When all is said in done,

there are four fundamental obtainment courses of action customers use in conveying development ventures (Tookey et al., 2001; Masterman, 2002; Morledge and Smith, 2013) which are: Separated, Integrated, Management and Public Private Partnership.

An investigation done by Laryea (2011) additionally concurs with our findings that the physical development acquisition exceedingly relies upon the productivity and nature of data gave by people in general customer amid the offering stage. Laryea (2011) contended that the data gave by the customer isn't generally evident and satisfactory. Enhancing the development stage execution begins at the outline organize. In any case, both the general population customers and originators confronting troubles in anticipating outline mistakes (Lopez et al., 2010). Open KeRRA is a noteworthy procurer and can impact the market and fortify development (Knutsson & Thomasson, 2013). The administration of the undertaking necessities and configuration are two principle assignments that impact all resulting acquisition initiates. However because of open customer restricted assets some of these exercises are outsourced to consultancy firms and with a few changes in the acquirement frameworks venture outline, administration, operation and notwithstanding financing has been exchanged to the private area.

## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter helps the researcher to summarize the findings of the study undertaken, discuss and to conclude and make recommendations based on the findings of the study. It therefore, presents a summary of findings from the data analysis and generates conclusions from questions that were answered by the respondents and presents the way forward on the improvement of the problem under investigation.

#### 5.2 Summary of the findings

Based on the responses of the study, the researcher summarized the findings below.

##### 5.2.1 Influence of Human resource capacity on Project Completion in KeRRA

The study results (table 4.5) 53.6% of the respondents strongly agree and 45.5% agree that KeRRA must ensure that their employees are skilled so as to ensure quality project is done in time and with correct amount of money allocated for the project. Cumulatively this represents 99.1% of the respondents. Only 0.9% of the respondents were undecided with this statement. Further 60.9% and 39.1% respectively of the respondents strongly agree and agree that KeRRA must ensure that there is supervision in order to monitor how funds of project are spent until completion as well to ensure quality project completion in time. Also 100% of the respondents cumulatively strongly agree and agree that most of the employees are highly qualified to implement quality project and within required time. 58.2% of the respondents strongly agree while 41.8% of respondents agree with the statement stating that KeRRA pays its employees fairly without favor which motivate them to complete quality project within time.

Study findings by Tamkin *et al.* (2004) agree with the findings employees should be highly qualified to implement the project well. They argued that the advantages to the firm go beyond the salary costs waged back to the employees. High performing firms utilize preferable instructed individuals over low performers. Educated workforces are related with higher profitability and other firm's results. Coordinated plant investigate has recommended abilities are an essential part of the aptitudes hole with contender countries. Larger amounts

of preparing are related with positive business benefits in a few examinations yet not all. There is blended proof in regards to the sorts of preparing and their connect to business results. Results demonstrate reliable mentors accomplish more noteworthy returns.

Another study by Low & Kalafut, (2002) agrees with the findings that employees should be highly qualified to implement the project well. They assert that the highly competent human capital does are positively correlated to firm's present and forthcoming performance, customer satisfaction, productivity, high financial performance, and employee retention. There is evidence showing that human capital growth plays an important role in enhancing firms' financial performance, productivity and other important operational outcomes.

### **5.2.2 Technology Capacity and Project Implementation**

The study results (table 4.6) show that 58.2% and 39.1% of the respondents strongly agreed and agreed that KeRRA uses modern computers for all its operations which ensure quality and timely completion of the projects. However 1.8% of the respondents neither agreed nor disagreed with this statement while 0.9% of the respondents disagreed that KeRRA uses modern computers for all its operations which ensure quality and timely completion of the projects. 0% of the respondents neither agreed nor disagreed that the KeRRA has high tech facilities such trucks, graders, excavators which influence the time spent to complete the project. However 40.0% and 60.0% of the respondents agreed and strongly agreed that KeRRA has high tech facilities such trucks, graders, excavators which influence the time spent to complete the project.

On whether the KeRRA uses project management system for its operations to influence the quality and timely completion of projects shows that 51.8% of the respondents strongly agreed while 45.5% of respondents agreed with the statement. However 2.7% of the respondents neither agreed nor disagreed with statement that firm uses project management system for its operations to influence the quality and timely completion of projects. 55.5% of the respondents strongly agree and 41.8% agree that KeRRA has strong internet connection which helps in communications and coordination of project progress to ensure quality and timely completion of projects. Cumulatively this represents 97.3% of the respondents. Only 0.9 % of the respondents neither agreed nor disagreed and 1.8% of respondents strongly disagree with this statement.

### **5.2.3 Financial Management Capacity and Project Implementation**

The study findings on financial management capacity and project implementation (table 4.7) revealed majority of respondents; 63.6% agree while 27.3% strongly agree that the level of financial planning at KeRRA influence the amount of money to be spent and quality of project to be completed. However, 1.8% of the respondents neither agreed nor disagreed with this statement. While 6.4% and 0.9% of respondents disagree and strongly disagree respectively that the level of financial planning at KeRRA influence the amount of money to be spent and quality of project to be completed.

Majority of the respondents 54.5% agree that KeRRA must ensure that there is availability of funds which influence the cost to be incurred to complete the project and also the quality of project completed with 40.9% of the respondents strongly agreeing with the statement. However, 0.9% of respondents neither agreed nor disagreed that KeRRA must ensure that there is availability of funds which influence the cost to be incurred to complete the project and also the quality of project completed. Only 2.7% and 0.9% of the respondents disagree and strongly disagreed respectively that KeRRA must ensure that there is availability of funds which influence the cost to be incurred to complete the project and also the quality of project completed.

Table 4.7 also shows that majority 58.2% of the respondents agreed while 39.1% strongly agree that by KeRRA ensuring that there is financial control leads to quality project completion and also results to correct cost incurred in completing the project. 0.9% of respondents neither agrees nor disagrees with the above statement. Only 1.8% disagreed that by KeRRA ensuring that there is financial control leads to quality project completion and also results to correct cost incurred in completing the project.

Lastly, 59.1% of respondents agreed that KeRRA has a financial system which assists me to know the state of payment transactions in process of completing the project, 32.7% of respondents strongly agreed. Only 2.7% and 0.9% disagree and strongly disagree with this statement respectively. 4.5% of respondents neither agree nor disagree with the above statement.

Study findings by Habeeb (2013) (Weick, 2005; Backström, 2004; Ensen, 2004; van Eijnatten, 2003) are in line with these findings that there should be financial control so as to ensure project completion. They noted that project's financial management should be actively managed because it's significant part of the project management procedure and must be



appraised by the financial team, project manager, key project team members regularly and stakeholders. By watching on the budgets of project one is assured that they are kept inside the estimate set from the start.

Cleland (2009) concurs with this study that budgetary administration is among the most fundamental undertaking administration exercises which are required all together for the venture to be conveyed inside the normal cost recorded by the task's portrayal. Money related administration like any type of control methodology isn't tied in with social affair and measuring how much cost you have consumed on the undertaking, and afterward just taking a gander at the financial plan and choosing what is left will 'clearly' complete the venture (Bourne and Walker, 2003).

#### **5.2.4 Procurement Capacity and Project Completion**

The study findings (table 4.8) revealed that majority 59.1% of the respondents agreed that tendering on time of all inventory determine the time spent to complete the project through supplementary budget while 37.3%. However 2.7% of the respondents neither agreed nor disagreed with this statement while 0.9% of the respondents disagreed that tendering on time of all inventory determine the time spent to complete the project through supplementary budget. 1.8% of the respondents neither agreed nor disagreed that the KeRRA should ensure that all inventory are ordered on time to ensure project completion. However 96.3% of the respondents cumulatively agreed and strongly agree that KeRRA should ensure that all inventories are ordered on time to ensure project completion. Only 1.8% disagrees with the statement.

On the statement KeRRA should ensure that all inventory are sourced on time so as to ensure project completion, 49.1% of the respondents strongly agreed while 47.3% agreed with statement. However, 2.7% of the respondents neither agreed nor KeRRA should ensure that all inventories are sourced on time so as to ensure project completion. 0.9% of the respondents disagreed that KeRRA should ensure that all inventory are sourced on time so as to ensure project completion.

The study findings indicated that 50.0% of respondents strongly agreed electronically sourcing materials and payments of suppliers ensure time spent is minimal hence project completed on time, 45.5% agreed with the statement. However, 3.7% of respondents neither agree nor disagree with the statement. Cumulatively 1.8% of respondents disagree and

strongly disagree that electronically sourcing materials and payments of suppliers ensure time spent is minimal hence project completed on time, 45.5% agreed with the statement.

Study results by Watermeyer (2011) concur with these findings that all inventories ought to be sourced on time to guarantee extend culmination. He showed that the obtainment of an advancement conspire begins with the distinguishing proof of necessities and finishes when the concurred item or/and administrations are conveyed. The customer builds up an arrangement of association with various associations amid the life cycle of the acquisition procedure. The customer assumes a key part in uniting different gatherings at various phases of the task by choosing one the regular obtainment course of action. When all is said in done, there are four fundamental obtainment courses of action customers use in conveying development ventures (Tookey et al., 2001; Masterman, 2002; Morledge and Smith, 2013) which are: Separated, Integrated, Management and Public Private Partnership.

An investigation done by Laryea (2011) additionally concurs with our findings that the physical development acquisition exceedingly relies upon the productivity and nature of data gave by people in general customer amid the offering stage. Laryea (2011) contended that the data gave by the customer isn't generally evident and satisfactory. Enhancing the development stage execution begins at the outline organize. In any case, both the general population customers and originators confronting troubles in anticipating outline mistakes (Lopez et al., 2010). Open KeRRA is a noteworthy procurer and can impact the market and fortify development (Knutsson & Thomasson, 2013). The administration of the undertaking necessities and configuration are two principle assignments that impact all resulting acquisition initiates. However because of open customer restricted assets some of these exercises are outsourced to consultancy firms and with a few changes in the acquirement frameworks venture outline, administration, operation and notwithstanding financing has been exchanged to the private area.

### **5.3 Conclusions**

The study concluded that for a firm to implement their projects well they should have highly qualified employees who know the milestones of successfully completing the quality project in time. This is because there is associated between highly educated workforces and higher productivity and other organizational outcomes.

The study also concluded that with highly qualify employees the firm also should have high tech facilities such trucks, graders, excavators which will facilitated efficiency of project completions as it was observes in KeRRA to have these tech facilities. The use of these technology facilities in constructions projects is seen to have improves better coordination and communication among project teams and participants. It has also increased the speed of communication and decreases documentation errors in recording the projects reports.

The study further concluded that for quality project completion there should be financial control in order to avoid funds mismanagement which leads to poor constructions or incomplete projects. This was found to be practiced in KeRRA which has enhanced project completion. Without proper financial controls the projection might not be completed because of fund misappropriations or misuse leading to fewer amounts to complete the project.

Lastly the study concluded that proper financial controls also ensure that all inventories are sourced on time because for project completion to be successful there should be good planning including looking for best source of inventory and delivery on time. These sourcing of inventory should be carried by procurements department in conjunctions of finance office. The procurements capacity determines the success or failure of projects completions. This may suggest that proper procurements handling enhance projects completions.

**Table 5.1 Contribution to Knowledge**

| <b>Objectives</b>   | <b>Contribution To Knowledge</b>   |
|---|--|
| To determine the influence of human resource capacity on project completion in KeRRA, Uasin Gishu Region. | Despite availability of highly educated workforces who are associated with higher productivity in the organizational, they should be trained frequently on new projects and new technology to be used in projects.         |
| To establish how technology capacity affects project completion in KeRRA, Uasin Gishu Region              | The use of technology in constructions sector projects can improves better coordination and communication among project teams and participants. It increased the speed of communication and decreases documentation errors |

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|   |  |
|---|--|
| <p>To determine the influence of financial management capacity on project completion in KeRRA, Uasin Gishu Region</p>     | <p>during completion of projects.</p> <p>Misappropriations of fund are construction sectors can lead to low quality projects and sometimes leading to incomplete projects. Hence, there is need for proper monitoring and evaluation of project funds in order for the project to be completed in time and required quality.</p> |
| <p>To determine the influence of procurement capacity on project completion and delivery in KeRRA, Uasin Gishu Region</p> | <p>The procurements capacity determines the success or failure of projects completionsimplying proper procurements handling enhance projects completions.</p>  |

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#### **5.4 Recommendation**

The researcher recommends that:

The firms should employ highly educated workforces for well completion of project and higher productivity in the firm.

The contraction firms should adopt more of new technology in contractions sector in the region in order to enhance the completions of projects. These adoption and use of technology in constructions projects will improves better coordination and communication among project teams and participants.

There is need for proper monitoring and evaluation of project and project financials in order for the project to be completed with correct amount by the firms.

The contractions firms should implement good timing of sourcing inventories in order to ensure that each inventory arrived in time and be used to accomplish the task at appropriate time.

#### **5.5 Suggestions for Further Research**

The researcher recommends for a similar study to be done at KeRRA in the remaining regions in Kenya. This will enable the researchers to consider the problems from a broad perspective which will benefit all regions in Kenyan.

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## APPENDIX I: INTRODUCTION LETTER

**Ochieng Kenneth Adinda**

**P.O.Box 546-40601**

**Bondo**

**Date.....**

Dear Respondent,

My name is **Ochieng Kenneth Adinda**;I am a student from University of Nairobi degree of Master of Arts in project planning and management to the department of extramural studies. As part of my studies I am required to undertake a research project. This study is titled **“INFLUENCE OF KENYA RURAL ROADS AUTHORITY CAPACITY ON COMPLETION OF CONSTRUCTION PROJECTS UASIN GISHU REGION, KENYA”**. I have identified you as a key respondent in the study and I would like you to spare a few minutes to participate in this study. The study is for academics purposes only and your responses will be held in confidence.

In view of this therefore, I wish to kindly request you to fill the questionnaire attached. Please respond to the items in the questionnaire completely and as truthful as possible.

Yours sincerely,

## APPENDIX II: QUESTIONNAIRE

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### SECTION A: BACKGROUND INFORMATION

---

- |          |   |               |                          |                                  |
|----------|---|---------------|--------------------------|----------------------------------|
| <b>1</b> | Gender  | Male          | <input type="checkbox"/> | Select one                       |
|          |   | Female        | <input type="checkbox"/> |                                  |
| <b>2</b> | How many years<br>have you work<br>on projects at<br>KeRRA  | ≤ 3 years     | <input type="checkbox"/> | Select one                       |
|          |   | 3-6 years     | <input type="checkbox"/> |                                  |
|          |   | above 6 years | <input type="checkbox"/> |                                  |
| <b>3</b> | How many<br>projects have<br>you implemented<br>with KeRRA? | 1 – 3         | <input type="checkbox"/> | Select one<br>the current<br>one |
|          |   | 4- 6          | <input type="checkbox"/> |                                  |
|          |   | 7 & Above     | <input type="checkbox"/> |                                  |
| <b>4</b> | Have you been<br>trained on<br>project<br>completions       | Yes           | <input type="checkbox"/> | Select one                       |
|          |   | No            | <input type="checkbox"/> |                                  |
-

Please mark the level that best reflects your level of agreement in the following statements.

**KEY: SA- Strongly Agree, A: Agree, UD-Undecided, D: Disagree, SD: Strongly Disagree**

**SECTION B: HUMAN RESOURCE CAPACITY**

5. What is the influence of human resource capacity on project completion in KeRRA, Uasin Gishu Region?

| Statements | Strongly Agree | Agree | Undecided | Disagree | Strongly disagree |
|------------|----------------|-------|-----------|----------|-------------------|
|------------|----------------|-------|-----------|----------|-------------------|

KeRRA must ensure that their employees are skilled so as to ensure quality project is done in time and with correct amount of money allocated for the project.

KeRRA must ensure that there is project supervision in order to monitor how funds of project are spent until completion as well to ensure quality project is done in time.

Most of the employees are highly qualified to implement quality project and within required time.

KeRRA pays its employees fairly without favor which motivate them to complete quality project within time.

|              |     |       |
|--------------|-----|-------|
| b)           | Any | other |
| specify..... |     |       |
| .....        |     |       |
| .....        |     |       |

**SECTION C: TECHNOLOGY CAPACITY**

**6. How technology capacity does affect project construction in KeRRA, Uasin Gishu Region?**

| Statements | Strongly<br>agree | Agree | Undecided | Disagree | Strongly<br>disagree |
|------------|-------------------|-------|-----------|----------|----------------------|
|------------|-------------------|-------|-----------|----------|----------------------|

KeRRA uses modern computers for all its operations which ensure quality and timely completion of the projects.

KeRRA uses high tech facilities such trucks, graders, excavators which influence the time spent to complete the project.

KeRRA uses project management system for its operations to influence the quality and timely completion of projects.

KeRRA has strong internet connection which helps in communications and coordination of project progress to ensure quality and timely completion of projects.

c) Any other specify

.....

.....

**SECTION D: FINANCIAL MANAGEMENT CAPACITY**

7. What is the influence of financial management capacity on project completion in KeRRA, Uasin Gishu Region?

| <b>Statements</b>   | <b>Strongly Agree</b> | <b>Agree</b> | <b>Undecided</b> | <b>Disagree</b> | <b>Strongly disagree</b> |
|---|-----------------------|--------------|------------------|-----------------|--------------------------|
| <p>Level of financial planning at KeRRA influence the amount of money to be spent and quality of project to be completed.</p> <p>KeRRA must ensure that there is availability of funds which influence the cost to be incurred to complete the project and also the quality of project completed.</p> <p>By KeRRA ensuring that there is financial control leads to quality project completion and also results to correct cost incurred in completing the project.</p> <p>KeRRA has a financial system which assists me to know the state of payment transactions in process of completing the project</p> |                       |              |                  |                 |                          |
| <p>c) Any other specify</p> <p>.....</p> <p>.....</p>   |                       |              |                  |                 |                          |

**SECTION E: PROCUREMENT CAPACITY**

8. What are the influence of procurement capacity on project completion and delivery in KeRRA, Uasin Gishu Region?

| Statements  | Strongly agree | Agree | Undecided | Disagree | Strongly disagree |
|---|----------------|-------|-----------|----------|-------------------|
| <p>Tendering on time of all inventory determine the time spent to complete the project through supplementary budget.</p> <p>KeRRA should ensure that all inventories are ordered on time to ensure project completion.</p> <p>KeRRA should ensure that all inventory are sourced on time so as to ensure project completion</p> <p>Electronically sourcing materials and payments of suppliers ensure time spent is minimal hence project completed on time</p> |                |       |           |          |                   |

c) Any other specify

.....

.....

*Thank you for taking your time to participate in this study.*



## APPENDIX III: SAMPLE DETERMINATION TABLE

TABLE 1  
*Table for Determining Sample Size from a Given Population*

| <i>N</i> | <i>S</i> | <i>N</i> | <i>S</i> | <i>N</i> | <i>S</i> |
|----------|----------|----------|----------|----------|----------|
| 10       | 10       | 220      | 140      | 1200     | 291      |
| 15       | 14       | 230      | 144      | 1300     | 297      |
| 20       | 19       | 240      | 148      | 1400     | 302      |
| 25       | 24       | 250      | 152      | 1500     | 306      |
| 30       | 28       | 260      | 155      | 1600     | 310      |
| 35       | 32       | 270      | 159      | 1700     | 313      |
| 40       | 36       | 280      | 162      | 1800     | 317      |
| 45       | 40       | 290      | 165      | 1900     | 320      |
| 50       | 44       | 300      | 169      | 2000     | 322      |
| 55       | 48       | 320      | 175      | 2200     | 327      |
| 60       | 52       | 340      | 181      | 2400     | 331      |
| 65       | 56       | 360      | 186      | 2600     | 335      |
| 70       | 59       | 380      | 191      | 2800     | 338      |
| 75       | 63       | 400      | 196      | 3000     | 341      |
| 80       | 66       | 420      | 201      | 3500     | 346      |
| 85       | 70       | 440      | 205      | 4000     | 351      |
| 90       | 73       | 460      | 210      | 4500     | 354      |
| 95       | 76       | 480      | 214      | 5000     | 357      |
| 100      | 80       | 500      | 217      | 6000     | 361      |
| 110      | 86       | 550      | 226      | 7000     | 364      |
| 120      | 92       | 600      | 234      | 8000     | 367      |
| 130      | 97       | 650      | 242      | 9000     | 368      |
| 140      | 103      | 700      | 248      | 10000    | 370      |
| 150      | 108      | 750      | 254      | 15000    | 375      |
| 160      | 113      | 800      | 260      | 20000    | 377      |
| 170      | 118      | 850      | 265      | 30000    | 379      |
| 180      | 123      | 900      | 269      | 40000    | 380      |
| 190      | 127      | 950      | 274      | 50000    | 381      |
| 200      | 132      | 1000     | 278      | 75000    | 382      |
| 210      | 136      | 1100     | 285      | 1000000  | 384      |

Note.—*N* is population size.  
*S* is sample size.

## **APPENDIX IV: PROJECTS**

**D296-LIMO HOSPITAL ILULA ELGEYO BORDER**

**D325-NAIBERI-TIMBOROA**

**D328-CHEPKOILEL JUNCTION-KABENES**

**E326-C50-NAIBERI-JUNCTION- MOIBEN**

**D288-RIVATEX-SIMAT-KIPKAREN**

**D305-KESSES-LESSOS**

**D332-TIMBOROA-METEITEI-KOPERE**