



**PROJECT LEADERSHIP AND COMPLETION OF WATER PROJECTS IN
MACHAKOS COUNTY, KENYA**

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ABSTRACT

This main objective of this study was to find out how project leadership influences completion of water projects. The specific objectives of this study were to determine the influence of leadership styles and leadership competency on completion of water projects in Machakos County. The study adopted descriptive survey design and the target population was 210 project managers, project teams and project consultants at the county level, sub county level and ward level of management in Machakos County Kenya. Stratified random sampling was adopted to select a sample size of 97 project managers, project teams and project consultants at the county level, sub county level and ward level of management in Machakos County Kenya. Primary data was collected using structured questionnaires inform of Likert scale. Filled questionnaires were reviewed for completeness and then coded and entered in SPSS. Data analysis involved both descriptive and inferential statistics. The analysed data was presented inform of tables together with associated explanations. The study concludes that leadership style has a positive and significant effect on completion of water projects in Machakos County. The study also concludes that leadership competency has a positive and significant effect on completion of water projects in Machakos County. Based on the findings, this study recommends that project management team in Machakos County should ensure they have in place effective leadership styles to facilitate success of county projects being implemented.

Key Words: Leadership influences, Completion of water projects, Leadership styles, Leadership competency

Background of the study

Project leadership is becoming a crucial aspect in ensuring successful completion of projects, and stakeholders are mainly interested in achieving different project deliverables and milestones as metrics of project performance (Ahmed and Vittal, 2017). According to Momanyi (2020), leadership in projects can be viewed from different angles which may include development of strategic goals, human resources, management of the organization, formulation of project objectives, implementing and controlling varying activities intended at promoting effective operations of a project. The importance of project leadership does not only apply to private projects, but applies also to public projects of all kinds and magnitude (Baraza, 2018). According to Momanyi (2020), Project leadership influences the nature of culture in an organization, and it has a big impact on promoting innovation, creativity, formulation and execution of systems of HR function, policies and activities, as well as behaviour of employees and competencies that are requisite in achieving project objectives. In addition, Employee competence especially that of a project manager, is an important determinant in the overall performance of a project according to Ahmed and Vittal (2017). However, they also observe that little focus has been put on competencies, making the results of project management unsatisfactory, an issue that is common in many industries around the globe (Ahmed and Vittal, 2017).

Nziva (2018) states that, the rising rate of failure in projects is partly because of lack of proper leadership in management of various project components such as determining how project constraints can be managed, so as to ensure compliance to project timelines and budget. This claims are supported by Oyaya (2017) by noting that poor project leadership's major challenge is the style of leadership adopted, that sometimes may not be harmonious with visions and goals of the projects and the project teams. According to Ahmed and Vittal (2017), determining how to strike a balance between project managers goals, project goals, individual team members' goals and organizations' s goal becomes the major challenge which needs good planning as well as stakeholders understanding the suitable strategies that can increase performance and improve leadership in projects.

Baraza (2018) observes that different leadership styles are appropriate under different project environment, making it hard to determine which one can be applicable across various projects and environments. According to Pretorius, Steyn and Barnard (2017), project leadership is also affected by various project-related factors which in turn determine the type of leadership approach that is applied. According to Pretorius et al., (2017) whilst the authors appreciate that leadership determines performance, they first argue that leadership is also influenced by other factors of the project and thus it solely cannot be said that the approach of leadership used is what determines performance of projects. Kashif (2019) on the other hand established that there is various perspective in as far as leadership in projects management can be expounded. In addition, the five leadership approaches, have different positive significant impact on project performance, in terms of cost reduction, stakeholder satisfaction, project completion within scheduled time lines and achievement of quality delivery according to scheduled deliverables as stated by Ahmed and Vittal (2017).

Contrary to previous assertions, project leadership and competencies even though they are discussed differently, the two influence performance of projects, but based on the nature of the organization (Grzesik & Piwovar 2018). For instance, the writers submit that the two parameters yield various results on organizations that are concerned on the implementation and management of project for external clients as likened to those managing projects internally for themselves (Grzesik & Piwovar, 2018). Another captivating observation is made by a research that was done by Ngugi and Were (2017), who observed that project leadership differs depending on the nature of a given organization, as to whether it is a non-government or public organization. In relation

to this, projects in non-government organizations were found to have better leadership and performed well when compared with public sector, more so in developing countries as stated by Ngugi and Were (2017). From a study done by Henkel, Marion and Bourdeau (2019), they highlighted that irrespective of the type of leadership and the ranks of competencies' that a project manager has, the important aspect that determines how projects are implemented and therefore the failure or success, is whether a project manager is a task oriented or relationship-oriented leader. From the conclusions of these authors, relationship-oriented project leaders are more likely to achieve project performance as compared to task-oriented leaders because of their impact on the project team's perception and motivation (Henkel et al., 2019).

Generally, project leadership is critical because what is needed of a project manager is the potential to influence, organize and motivate members of a team so that they can deliver on the project mandates as stated by Tom, (2015). There are a lot of skills that have been related to having good leadership in project management and they are not limited to; management skills, communication skills, decision making skills, ability to share project vision with team members, honesty, flexibility, planning, delegation, being focused and creativity among others as stated by Abdou, Yong & Othman, (2016). According to McCaffer & Harris (2018) in context of communication skills, project managers are in a position to explain the requirements of the project to various stakeholders in promoting its success chances. On management skills, project managers reveal functions of managers such as organizing, staffing, directing and coordinating as stated by Cattani, Ferriani, Frederiksen & Florian, (2016). In addition, on sharing vision, it promotes stakeholder's involvement and allows members of the team to accept changes in the process of implementing the project (Mesly, 2017). In focusing on decision making, it is essential that project managers are able to make conclusions on for various situations; for example, during crisis and other challenges they should foster better performance as stated by Serra & Kunc, (2015). According to Conforto, et al., (2015), project managers as leaders should be flexible so as to accommodate changing trends in project management, while being focused. In addition, they should exercise professional honesty, integrity as well as delegate duties to team leaders and members (Patel, 2018).

Statement of the Problem

Project completion has been a problem in Kenya and more specifically, Machakos County. Most projects are not completed on time and some have even stalled along the way. For instance, in Machakos County, a Groundwater Resources Assessment (Ground Water and Technical Services Limited, 2016), commissioned jointly by Engineers without Borders New York (EWB-NY) and Misuuni Development Self Help Group (MDSHG), found that five out of seven boreholes in the project area were incomplete. At the Misuuni Primary School in Machakos County, several lavatory sinks lay abandoned and incomplete at the boys' and girls' privies. A sign on the privy wall indicated that the project was sponsored by the U.S. Agency for International Development. With these sinks inoperable, there was no means for hand-washing except for one faucet, which was available on an intermittent basis, located over 50 meters from the privies (WHO, 2017).

At the Miumbuni Market Center in Machakos County, 1 kilometer northwest of the Misuuni Dam, a project that required the construction of water kiosks to help in water supply led to the completion of only one which flows at such a very low rate that an inordinate amount of time is required to fill water containers and the line of people waiting is long (WHO, 2017). Reports also indicate that more than 50% of all public buildings construction projects started in the County in the last two years have gone beyond the stipulated completion time (Mue, 2020).

In other counties in Kenya, more than 40% of all project failures leading to litigation arise from delays in project completion (Musyoki, 2018). Half of the 1,000 public projects being implemented

in Kenya have stalled and will require a staggering Sh1 trillion to complete, raising concerns about the country's project planning, public spending and project leadership decisions. The number of stalled projects is increasing, and is currently estimated at approximately 500 (half of all ongoing projects), because of non-payment to contractors, insufficient allocation of funds to projects by leaders and litigation cases in court (IMF, 2020). According to KIPM (2020), most projects in Kenya are not completed on time as they do not conform to time and budgetary requirements. Some of the projects overstretch their budgets and are not completed on time.

A number of studies regarding projects, project leadership and project completion have been done by previous researchers. Mary (2017) conducted a study on The effect of Project Management Leadership on performance of compassion international projects in kitui county, Kenya. Mary's study analyzed project performance and used leadership skills, leadership experience, leadership control and leadership style to measure project performance. Furthermore, the study was carried out in Kitui County. The present study will measure project completion and it will use different measures i.e leadership competency to measure project completion. It will also be conducted in Machakos county, hence both knowledge and contextual gaps are realized.

Nawaz (2016) analyzed the the Impact of Project Leadership and Team Work on Project Success in Punjab. The study measured project success and it was conducted in a different context that is, Punjab while the present study will measure project completion and it will be conducted in Machakos Kenya hence both knowledge and contextual gaps are realized. Murimi (2018) analyzed the influence of leadership styles on timely completion of road construction projects in Kenya: a case of Norken Ltd, Nairobi, Kenya. The study focused on leadership styles such as transformative leadership, autocratic leadership, democratic leadership and permissive leadership to measure project completion. This study focused on other traits than leadership styles hence a knowledge gap is realized.

From the foregoing studies, it is evident that there exists knowledge and contextual gaps, hence the current study sought to bridge these gaps existing in literature by finding out the influence of leadership on completion of water projects in the county of Machakos.

Objectives of the study

The major objective of the study was to establish the influence of project leadership on completion of water projects in Machakos County.

- i. To determine the influence of leadership style on completion of water projects in Machakos County
- ii. To establish the influence of leadership competency on completion of water projects in Machakos County

LITERATURE REVIEW

Theoretical Review

Leadership Behavioral Theory

This group of theories assumes that specific behaviors are what distinguishes leaders (Kovach, 2018). The theory starts with the assumption that for a leader to be effective in achieving their goals they have to show behaviors that will help in group productivity. According to Jones and George (2017), research for this theory began in the 1940's. This concept was advanced by (Robbins and Judge (2017), in what they believed that leadership can be developed through training.

This theory broadly analyses the impact of individual's behaviors on the achievements of a given organization. As noted by Lenk and Bockenolt (2012), behavioral theory states that leaders are

described best by their behaviors. The manner in which a person manages issues and how they show their abilities and the approach they use to do things depict the type of leader that person is.

Leaders can be classified into two types that's task oriented and people oriented (Welch, 2015). Leaders that are people oriented are those that are always affiliated to people and they listen to those working under them. Robbins et al (2010) depicts people oriented leaders as those that shows confident in employees and they support their employees always. By their commitment to motivate and serve the employees they are able to gain their trust and therefore they are able to work together and achieve the organizational objectives. Leaders who are task oriented on the other hand are focused on attaining the goals of the organization. They are always tenacious to have activities and roles done and they achieve this by setting standards which everyone in the organization have to follow (Welch, 2015).

This theory is linked to the leadership style variable in this study. It is important in county governments in ensuring that the county resources are managed effectively. Governor as a leader of the county will need to show given behavior which will portray him/her as a competent leader. Successful completion of projects in the counties requires leaders who are people and task oriented. They will therefore need to ensure that approved plans and schedules are followed and make certain that employees welfare is catered for (Safarzadeh, Dahghan, Pazireh, & Pouraskari, 2015).

Contingency Theory

According to (Oke, 2014) this theory focuses on particular variables that are affiliated to a given environment and they determine the style of leadership for a particular work environment. The theory focuses on leadership within an organization and helps managers identify how they can be global leaders with capabilities in several areas. The theory implies that the methods and tactics of leadership used in providing services depends on situation that the leader's experiences (Robbins & Judge, 2017).

Governors who are the heads of counties were previously working in different sectors. According to reports of daily nation (2016) most governors were managers in other sectors while others were politicians holding different offices. County governments were in the new constitution and the office of the governors introduced with no one having the experience on how to manage the resources of the county governments. As stated by Muriu (2014) most governors after assuming office started using strategies which they were using in their previous offices and this made them not perform as expected. Through this theory, the need to change the strategies in leadership is realized. Contingency theory was used in this study in enhancing information on the leadership competency influence.

Conceptual Framework

This framework represents the literature gathered by the researcher and explains the phenomena under study. According to Regionel (2015), it highlights the actions needed during the study given the researchers previous knowledge of other researchers' point of view and their observations on the subject of research. It enables the researcher to know the direction to assume when doing their study based on the variations of the research variable. Figure 1 below shows the relationships of the independent variables and the dependent variables. The dependent variable is completion of water projects in Machakos County while the independent variables include leadership style, and leadership competency.

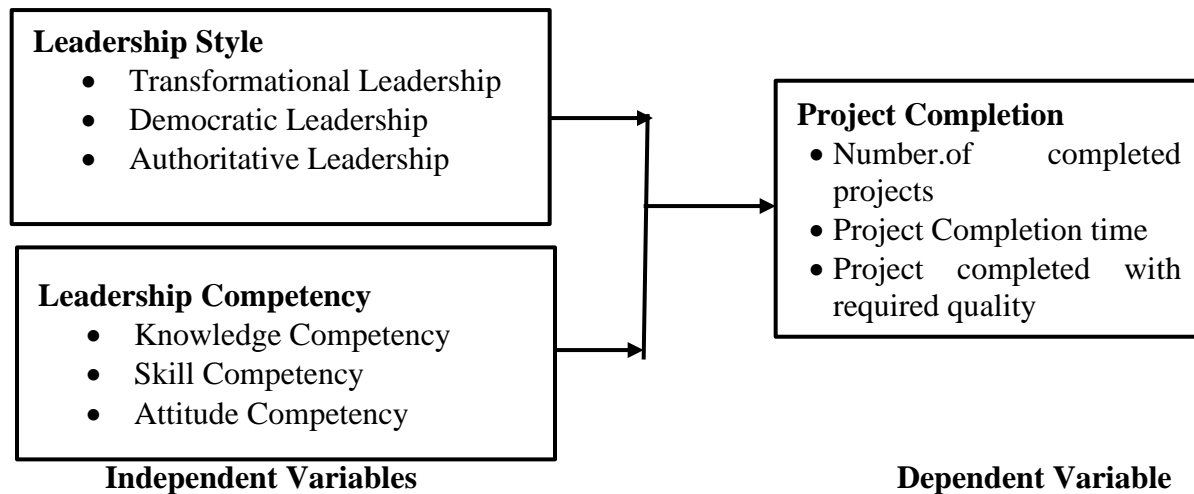


Figure 1: Conceptual Framework

Leadership Style

Leadership style is the manner and approach of providing direction, implementing plans, and motivating employees. Ali, Ismail, Kamal, and Ali, (2015) from their study states that different styles of leadership influences the quality of work culture in an organization and these effects can be positive or negative. A study on the Impact of transformational and transactional leadership styles on employee's performance done by (Naeem & Nawaz, 2017), states that different leadership styles are required for different situation and every leader is required to know when to display particular approach. Leaders are required to adapt their styles of leadership to the specific situation and to the group of people they are leading.

Leadership involves interaction between leaders and their followers in an attempt by the leader to influence their followers in order to achieve set targets (Naeem & Nawaz, 2017). To realize good leadership style in any given organization, leaders have to realize the place of task structure, primacy and expertise.

According to Naeem and Nawaz (2017), each style of leadership involves a combination of different characteristics and behavior of leaders. In situations where quick decision need to be made the leader should adopt autocratic leadership style. If the group is well organizing and stable, then democratic style of leadership will work. Democratic leadership involves including employees in decision making and giving them a certain degree of freedom. The transformational leadership style involves an attempts to induce followers so that they reorder their needs by overstepping self-interests and desire for higher order needs. Employee performance therefore heavily relies on style of leadership and it plays a critical role in determining the performance of employees, thus managers must critically analyze, what kind of leadership they should adopt in order to increase employee performance (Naeem & Nawaz, 2017).

Transformative leaders as Miskel and Wayne (2018) argue, are proactive, raises the awareness levels of followers on inspirational collective interests and helps followers achieve unusually high level of performance. Cole (2015) asserts that it is needed in situations where change is needed such as doing away with conflicts like strikes. Therefore this calls for leaders understanding of organization and its employees rather than on what needs to be done. It is also based on great conviction by the leader of the important issues, high ethical and moral standards, sharing of risks, setting and achieving goals while looking at welfare of others (Momanyi, 2020)

Leadership Competency

Leadership competencies include the abilities, skills, knowledge, and personal characteristics possessed by leaders (Galvin, Gibbs, Sullivan, & Williams, 2016). According to Takey and Carvalho (2016), leadership competency is defined as the ability to mobilize, integrate and transfer knowledge, skills and resources to reach or surpass the configured performance in work assignments, adding economic and social value to the organization and the individual. The Project Management Competency Development (PMCD) Framework describes a leader's competency as the process by which the leader continuously applies his knowledge, skills and personal behaviors with the intention of delivering projects that will meet the requirements of the different stakeholders (PMI, 2017).

Kelley (2017), states that a leader is considered competent when they display their capabilities in dealing with the organizations problems and in how they relate with fellow employees. Competency of a given leader has a major role in improving the performance of organizations by developing strategies which are implemented in the firm. Leadership competency allows them to come up with strategies that are reliable and sound which enhances the growth of firms (Kelley, 2017). Leadership competencies are of a common consensus that there are competencies that should be possessed by project managers to ensure success on projects. According to research, competence is a combination of skills, knowledge and individual characteristics (Crawford, 2016).

Competencies have a wide range of uses that includes training and development, selection of candidates, performance management, motivation and rewarding (Mulder, 2016). The performance and the job roles are clearly defined based on the competency of an individual, so that the human resource can function more efficiently (Wesselink, Elsen, & Mulder, 2016). Project management competency continuously emerges as a key factor influencing project success (Joseph, Erasmus, & Marnewick, 2016). The various types of competencies that a leader ought to possess include; knowledge competency, skill competency, attitude competency among others.

(PMI, 2017) expresses knowledge as knowing something with the familiarity gained through experience, education, observation, or investigation, it is understanding a process, practice, or technique, or how to use a tool. According to Mnkandla and Marnewick (2017), there are two forms of knowledge, namely, explicit and tacit knowledge. Education is the primary means for acquiring explicit knowledge. This knowledge focuses on hard skills that are teachable abilities or skill sets that are easy to quantify the technical information. Tacit knowledge is the kind of knowledge that is difficult to transfer to another person by means of writing it down or verbalizing it but is primarily attained through experience (Pant & Baroudi, 2019).

Alternatively, there is knowledge pertaining to the organization, industry and project type, such as engineering, information systems and finance (Bredillet, Tywoniak, & Dwivedula, 2016). Industry, organizational and project type knowledge is both explicit and tacit as both knowledge types inform the various phases and processes during a project (Holzmann, 2019). It could be argued that explicit knowledge is similar to technical skills whilst tacit is to soft skills. Specific project and industry knowledge are required to apply the various skills accordingly.

As per the study by Petter and Randolph (2019), Project management skills are often classified as technical or soft skills. Technical skills refer to the abilities and knowledge needed to perform specific tasks to understand and apply various tools and techniques pertaining to projects in general as well as specific projects such as information systems projects (Keil, Lee, & Deng, 2019). They are practical, and often relate to mechanical, information technology, mathematical, or scientific tasks. Soft skills primarily focus on communication and people management. Verbal skills are paramount to any project manager as they are responsible for managing and directing the various project members as well as liaising with the various stakeholders.

Successful Completion of Projects

Successful project completion is the projected completion as in the contract for the construction of the project (Munano, 2018). Successful project completion has always been measured using factors such as; number of completed projects within required time, project Completion time and Project completed with required quality. It is very important to the stakeholders especially the users because they are waiting to use the product as soon as possible. Timely completion therefore as observed earlier in this study is a success factor. Project success is a term that has elicited enormous research with differing views on various aspects of it.

Its definition has changed over the years for instance in the earlier years, project success was measured in technical terms. However later, project success was stated in terms of meeting the following objectives: completed within planned time, planned budget and the required quality level (Gwaya, Sylvester, & Walter, 2020). All the three objectives are internal to the project and do not necessarily indicate the preference of the client. After the TQM, a project was considered to be a success by not only meeting the above three objectives but also making sure that the project is accepted by the client. For a project to be said to be a success therefore, it needs to be completed on a schedule that is satisfactory to the client.

According to (Conchuir, 2017), there are six key steps to ensure successful completion of projects, five of which are in the planning process group and one in the monitoring and controlling (PMI, 2020). The first process is to identify each activity that has to be carried out, then base the time estimates on these components of work. This helps to communicate with the stakeholders objectively, to ensure that all activities are included and to bring understanding of what has to be done. Once the activities have been defined, the next step is to define their order. This uses the complete list of activities together with enough detail about each to work out relationships between them. Sequencing process sorts the various activities into the order in which they will be implemented (Conchuir, 2017). Failure to follow the sequence may be too costly. The major tools and techniques used at this level are the schedule network diagrams like the CPM diagrams. The next step is to estimate the work periods which will be needed to complete individual tasks or activities (PMI, 2017). The Project Management Institute states several inputs for this process with expert judgement as one of the key tools and techniques.

The fourth step is to determine which resources in terms of labour, equipment; facilities etc are needed for each activity (Conchuir, 2017). These estimates have to be as accurate as possible. This process uses various tools and techniques according to the Project Management Institute that includes bottom-up estimating and use of the project management software. Once all the activity durations and their sequence have been determined they are used to create the project schedule (order) (PMI, 2020). This tells us when every activity will take place. The Project Management Institute list schedule network analysis as one of the tools and techniques to develop schedule. The project manager must regularly control that the planned work is proceeding according to schedule. The purpose here is to ensure that the project is being implemented as planned and acting to resolve problems.

Empirical Literature Review

Leadership Style

Lategan and Fore (2016) analyzed the impact of leadership styles on project success: A case of a telecommunications company in South Africa. The study used a descriptive research design to determine whether there is an improvement rate in project success within the industry when utilizing certain leadership skills, styles and attributes within an organization. Data was collected by means of questionnaires which were administered electronically via email. The population of

the study comprised of the 201 individuals in the customer care division, which included Project Teams and Operational Teams with various levels of experience within the organization. A stratified random sampling method was used to draw a sample size of 100 units from a population size of 201 units. The study presented the research results in the form of tables and charts. The study found that leadership styles significantly affects project success.

Koech (2020) did a study to investigate the main effects of leadership styles on organizational performance at state-owned corporations in Kenya. It specifically sought to determine the impact of laissez-faire, transactional and transformational leadership styles on organizational performance at state-owned corporations in Kenya. A descriptive survey ++research based on the perceptions of middle and senior managers in thirty 30 state-owned corporations based in Mombasa, Kenya was undertaken. A structured self-completed research questionnaire was thereafter distributed and collected after one week. The findings of the study were that correlations between the transformational-leadership factors and organizational performance ratings were high whereas correlations between the transactional leadership behaviors and organizational performance were relatively low As expected, laissez-faire leadership style is not significantly correlated to organizational performance and should be discarded.

Khan, Ali and Umar (2019) researched on the impact of Leadership Styles on Project success: Evidence from Private Sector Firms of Construction Industry. It was a deductive approach and cross-sectional survey-based research in which hypotheses were tested. Simple random sampling technique was used to select the sample n of n=320 from the selected population . Reliability of the survey was checked through pilot testing before the final distribution among the respondents. Results of the analysis showed that transformational leadership styles with its dimension are significantly positively associated with project success. Laissez fair leadership also showed a negative association with project success.

Esperance (2016) assessed the impact of leadership style on project success in Rwanda: A case of Kirehe Community-Based Watershed Mngement Project (KWAMP). The study used both descriptive and correlational research designs, where the researcher used both qualitative and quantitative research. The total population of this study was 286, using Yamane formula, the researcher got as sample size of 96 people. The sampling technique that was used in this study is stratified random sampling method. In order to collect data, the method that was used is questionnaire. This research used correlation and descriptive statistics to establish relationship between variables under study. The data was analyzed using SPSS software. The findings of the study revealed that Leadership styles in KWAMP project led to success of project in KWAMP through making employees more committed.

Leadership Competency

Khan, Long and Iqbal (2019) conducted a study on Leadership Competency: A Tool for Project Success. For the purpose data was collected from the published articles from well-known databases. It was concluded that leadership competency has positive impact on the project success which was previously neglected due to some unknown reasons. Leadership is a universal topic and has been an effective source for organizational success yet in project management it is evolving. Finally, as per prior studies, it was concluded that project leadership competencies are similar to competencies of leadership in general management.

Nigatu (2019) analyzed The Effect of Project Managers' Competence on Project Success: The Case of Ethiopian Airlines Group. To achieve the objective of the research, the study used a quantitative research method and explanatory research design. Data for the assessment were obtained from 43 selected respondents (project managers) from three different sections through a five point Likert scale-based questionnaire. Analyses were done based on three competency

variables ;knowledge, skill, and attitude. According to the findings of the study, project manager competency has strong effect on project success, which means that high project manager competency is likely to bring about higher level of project success.

Bechtel (2020) examined the leadership competencies within a Community College Leadership Development Program. The researcher utilized a concurrent triangulation mixed-method evaluative case study approach to determine participants' demographic characteristics and to what extent transformational leadership theory and AACC's competencies were embedded within the program's curriculum. Findings from the study indicated participants of the program represented a wide range of employees throughout the organization. The study also identified facets of AACC's competencies and transformational leadership theory were embedded within the curriculum to varying degrees.

Daniel (2019) analyzed the influence of leadership competency on completion of road construction projects in Nasarawa state, Nigeria. The collection of primary data was from direct responses from Nasarawa State government top management through the use of structured questionnaire. The collected data was analyzed through Statistical Package for Social Sciences version 22. Descriptive and inferential statistics were used in analyzing data where multiple regression analysis was used to examine the influence of independent variables on the dependent variable. The study found out that indeed leadership competencies have a statistical significant influence on completion of road construction projects

RESEARCH METHODOLOGY

To achieve the study purpose, the researcher adopted a descriptive research design. The target population comprised of 128 project managers, project team members and project consultants of government projects in Machakos County which are managed at different levels of county administration. The respondents were the project managers, project team members and project consultants in county headquarters, sub-country offices and ward offices who are in charge of the targeted projects. In the current research, Slovin's Formula was used to calculate the sample size of 97 for this study.

The study used stratified random sampling technique in choosing the sample size from the three levels of management staffs. The research made use of primary data. The researcher in this study adopted structured questionnaires since they facilitate the analysis process and which can be directly analyzed from the field. The research also ensured questions are relevant through pre-testing. Pre-test group included 10% of entire sample size and which was chosen by adopting random sampling. Khan (2012) claim that sample size of 10 % is adequate for purpose of pre-testing.

Descriptive and inferential statistic was used in analyzing quantitative data by the help statistical software known as SPSS version 21. Descriptive statistic entails calculation of percentage, frequencies and measurement of mean as well as measurement of dispersion. The final results were presented by use of figures (pie charts and bar charts) and tables. The relationship between dependent and independent variable(s) was determined through regression analysis.

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

From the 97 questionnaires 86 were completely filled and returned hence a response rate of 88.7%. The response rate was considered as suitable for making inferences from the data collected. As indicated by Metsamuuronen (2017), a response rate that is above fifty percent is considered adequate for data analysis and reporting while a response rate that is above 70% is classified as excellent. Hence, the response rate of this study was within the acceptable limits for drawing conclusions and making recommendations.

Descriptive Statistics Analysis

Leadership Style and project completion

The second specific objective of the study was to determine the influence of leadership style on completion of water projects in Machakos County. The respondents were requested to indicate their level of agreement on leadership style and completion of water projects in Machakos County. The results were as shown in Table 1

From the results, the respondents agreed that leadership style influences successful completion of projects. This is supported by a mean of 3.996 (std. dv = 0.865). In addition, as shown by a mean of 3.819 (std. dv = 0.945), the respondents agreed that transformational leadership influences successful completion of projects. Further, the respondents agreed that democratic Leadership influences successful completion of projects. This is shown by a mean of 3.798 (std. dv = 0.611). The respondents also agreed that authoritative leadership influences successful completion of projects. This is shown by a mean of 3.731 (std. dv = 0.908). With a mean of 3.711 (std. dv = 0.776), the respondents agreed that authoritative leadership influences successful completion of projects.

Table 1: Leadership Style and project completion

	Mean	Std. Deviation
Leadership style influences successful completion of projects	3.996	0.865
Transformational leadership influences successful completion of projects	3.819	0.945
Democratic Leadership influences successful completion of projects	3.798	0.611
Authoritative leadership influences successful completion of projects	3.731	0.908
Authoritative leadership influences successful completion of projects	3.711	0.776
Aggregate	3.732	0.841

Leadership Competency and Project Completion

The fourth specific objective of the study was to establish the influence of leadership competency on completion of water projects in Machakos County. The respondents were requested to indicate their level of agreement on various statements relating to leadership competency and completion of water projects in Machakos County. A 5 point Likert scale was used where 1 symbolized strongly disagree, 2 symbolized disagree, 3 symbolized neutral, 4 symbolized agree and 5 symbolized strongly agree. The results were as presented in Table 2.

From the results, the respondents agreed that leadership competency influences successful completion of projects. This is supported by a mean of 4.168 (std. dv = 0.905). In addition, as shown by a mean of 3.959 (std. dv = 0.885), the respondents agreed that knowledge competency plays a key role in successful completion of projects. Further, the respondents agreed that skills competency influences successful completion of projects. This is shown by a mean of 3.920 (std. dv = 0.605). The respondents also agreed that attitude competency influences successful completion of projects. This is shown by a mean of 3.915 (std. dv = 0.981). The respondents agreed that they are satisfied with the leadership competencies possessed by project leaders. This is supported by a mean of 3.911 (std. dv = 0.873).

Table 2: Leadership Competency and Project Completion

	Mean	Std. Deviation
Leadership competency influences successful completion of projects	4.168	0.905
Knowledge competency plays a key role in successful completion of projects	3.959	0.885
Skills competency influences successful completion of projects	3.920	0.605
Attitude competency influences successful completion of projects	3.915	0.981
Am satisfied with the leadership competencies possessed by project leaders	3.911	0.873
Aggregate	3.890	0.867

Completion of water projects in Machakos County

The respondents were requested to indicate their level of agreement on various statements relating to completion of water projects in Machakos County. A 5 point Likert scale was used where 1 symbolized strongly disagree, 2 symbolized disagree, 3 symbolized neutral, 4 symbolized agree and 5 symbolized strongly agree. The results were as presented in Table 3.

From the results, the respondents agreed that most of the projects are completed within the specified time. This is supported by a mean of 4.084 (std. dv = 0.997). In addition, as shown by a mean of 3.917 (std. dv = 0.831), the respondents agreed that most of the implemented projects adhere to the specified quality standards. Further, the respondents agreed that projects are implemented within the specified budget. This is shown by a mean of 3.858 (std. dv = 0.563). The respondents also agreed that during project implementation there are cases of cost overrun. This is shown by a mean of 3.831 (std. dv = 0.851). With a mean of 3.763 (std. dv = 0.786), the respondents agreed that they are satisfied with the effectiveness of project implementation.

Table 3: Completion of water projects in Machakos County

	Mean	Std. Deviation
Most of the projects are completed within the specified time	4.084	0.997
Most of the implemented projects adhere to the specified quality standards	3.917	0.831
Projects are implemented within the specified budget	3.858	0.563
During project implementation there are cases of cost overrun	3.831	0.851
Am satisfied with the effectiveness of project implementation	3.763	0.786
Aggregate	3.836	0.818

Inferential Statistics

Inferential statistics in the current study focused on correlation and regression analysis. Correlation analysis was used to determine the strength of the relationship while regression analysis was used to determine the relationship between dependent variable (Completion of water projects in Machakos County) and independent variables (leadership style, and leadership competency).

Correlation Analysis

The present study used Pearson correlation analysis to determine the strength of association between independent variables (leadership style, and leadership competency) and the dependent variable (Completion of water projects in Machakos County). Pearson correlation coefficient range between zero and one, where by the strength of association increase with increase in the value of the correlation coefficients. The current study employed Taylor (2018) correlation coefficient ratings where by 0.80 to 1.00 depicts a very strong relationship, 0.60 to 0.79 depicts strong, 0.40 to 0.59 depicts moderate, 0.20 to 0.39 depicts weak.

Table 4: Correlation Coefficients

		Project Completion	Leadership Style	Leadership Competency
Project Completion	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	86		
Leadership Style	Pearson Correlation	.856**	1	
	Sig. (2-tailed)	.001		
	N	86	86	
Leadership Competency	Pearson Correlation	.859**	.189	1
	Sig. (2-tailed)	.000	.081	
	N	86	86	86

The results revealed that there is a very strong relationship between leadership style and Completion of water projects in Machakos County ($r = 0.856$, p value = 0.001). The relationship was significant since the p value 0.001 was less than 0.05 (significant level). The findings conform to the findings of Lategan and Fore (2016) that there is a very strong relationship between leadership style and project completion.

The results also revealed that there was a very strong relationship between leadership competency and Completion of water projects in Machakos County ($r = 0.859$, p value = 0.000). The relationship was significant since the p value 0.000 was less than 0.05 (significant level). The findings are in line with the results of Khan, Long and Iqbal (2019) who revealed that there is a very strong relationship between leadership competency and project completion

Regression Analysis

Multivariate regression analysis was used to assess the relationship between independent variables (leadership style, and leadership competency) and the dependent variable (Completion of water projects in Machakos County)

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.925	.848	.849	.10120

a. Predictors: (Constant), leadership style, and leadership competency

The model summary was used to explain the variation in the dependent variable that could be explained by the independent variables. The r -squared for the relationship between the independent variables and the dependent variable was 0.848. This implied that 84.8% of the variation in the dependent variable (Completion of water projects in Machakos County) could be explained by independent variables (leadership style, and leadership competency).

Table 6: Analysis of Variance

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	12.027	4	3.018	37.26	.000 ^b
1 Residual	6.568	81	.081		
Total	18.595	85			

a. Dependent Variable: Successful completion of projects

b. Predictors: (Constant), leadership style, and leadership competency

The ANOVA was used to determine whether the model was a good fit for the data. F calculated was 37.26 while the F critical was 2.484. The p value was 0.000. Since the F -calculated was greater

than the F-critical and the p value 0.000 was less than 0.05, the model was considered as a good fit for the data. Therefore, the model can be used to predict the influence of leadership style, and leadership competency on the Completion of water projects in Machakos County.

Table 7: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	0.341	0.089		3.831	0.000
	leadership style	0.387	0.095	0.386	3.949	0.000
	leadership competency	0.398	0.102	0.399	3.716	0.002

a Dependent Variable: Completion of water projects in Machakos County

The regression model was as follows:

$$Y = 0.341 + 0.387X_1 + 0.398X_2 + \varepsilon$$

The results also revealed that leadership style has significant effect on Completion of water projects in Machakos County, $\beta_1=0.387$, p value= 0.000). The relationship was considered significant since the p value 0.000 was less than the significant level of 0.05. The findings conform to the findings of Lategan and Fore (2016) that there is a very strong relationship between leadership style and project completion.

In addition, the results revealed that leadership competency has significant effect on Completion of water projects in Machakos County ($\beta_1=0.398$, p value= 0.002). The relationship was considered significant since the p value 0.002 was less than the significant level of 0.05. The findings are in line with the results of Khan, Long and Iqbal (2019) who revealed that there is a very strong relationship between leadership competency and project completion

Conclusions

the study concludes that leadership style has a positive and significant effect on successful completion of projects in Machakos County. The study revealed that transformational Leadership, democratic Leadership and authoritative Leadership influence successful completion of projects in Machakos County

The study also concludes that leadership competency has a positive and significant effect on Completion of water projects in Machakos County. The study revealed that knowledge Competency, skill Competency and attitude Competency influence Completion of water projects in Machakos County.

Recommendations

In addition, the study found that leadership style has a positive and significant effect on Completion of water projects in Machakos County. This study therefore recommends that the project management team in Machakos County should ensure they have in place effective leadership styles to facilitate success of county projects being implemented.

The study also found that leadership competency has a positive and significant effect on Completion of water projects in Machakos County. This study therefore recommends that the project management team in Machakos County should consider knowledge Competency, skill Competency and attitude Competency on project team leaders.

Suggestions for Further Studies

This study focused on establishing the influence of project leadership on Completion of water projects in Machakos County. Having been limited to county government projects, the findings of this study cannot be generalized to completion of private projects. The study therefore suggests further studies on the influence of project leadership on completion of private projects in Machakos County, Kenya.

Further, the study found that the independent variables (leadership style and leadership competency) could only explain 84.8% of the successful completion of projects in Machakos County. This study therefore suggests research on other factors affecting Completion of water projects in Machakos County.

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