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DETERMINANTS OF SUCCESSFUL IMPLEMENTATION OF INFORMATION COMMUNICATION TECHNOLOGY PROJECTS AMONG COMMERCIAL STATE CORPORATIONS IN NAIROBI COUNTY

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ABSTRACT

This study sought to examine the determinants affecting implementation of information communication technology projects among commercial state corporations in Nairobi County. Specifically, the study sought to assess the effect of the project financial resources on implementation of ICT projects among commercial state corporations in Nairobi County, to establish the effect of project stakeholder involvement on implementation of ICT projects among commercial state corporations in Nairobi County. This study employed a descriptive research design. The target population was 518 management employees working in thirty-seven (37) commercial state corporations in Nairobi County. The study used stratified random sampling technique. The sample size was 227 respondents. The primary data was obtained by means of a self-administered questionnaire by the respondent. Data analysis was done through use of both inferential and descriptive statistics. Descriptive statistics such as frequency distributions and percentages was used to summarize basic features of the data in the study. The Statistical Package for Social Sciences (SPSS) version 25 was used to perform the analysis of quantitative data. SPSS version 25 has got descriptive statistics features that assist in variable response comparison, gives clear indication of response frequencies, it is user friendly and is more stable. The study results were presented through use of tables and figures. The study concludes that project financial resources has a positive and significant influence on implementation of ICT projects among commercial state corporations in Nairobi County. In addition, the study concludes that project stakeholder involvement has a positive and significant influence on implementation of ICT projects among commercial state corporations in Nairobi County. Based on the study findings, this study recommends the following; the management of commercial state corporations in Nairobi County Kenya should ensure proper budgeting and funding of ICT projects to facilitate implementation of these projects. The management should also ensure funds for ICT implementation are disbursed on time.

Key Words: ICT projects, Project financial resources, Commercial state corporations, Project stakeholder involvement

Background of the Study

There have been numerous and varied definitions of ICT project management in different sectors. From an education sector point of view, ICT project management can be seen as a discipline for planning, leading, organizing and controlling resources in such a way as to achieve the intended objectives. Harrison and Lock (2016) defines ICT project management as the attainment of project goals through people and encompassing the organization, planning, and control of resources assigned to the project.

ICT project management encapsulates such diverse areas such as integration, scope, time, cost, quality, human resource, communication, risk, and procurement. Aspects such as project financial resources and project stakeholder involvement in the education sector are at the core of ICT projects implementation (Oloo, 2018). The question has always been what the common understanding of what project success is. Obviously, many factors impact the degree of project success. The general assumption among project managers is that a project completed in time, within the agreed budget and the set quality, then the project is deemed to be successful.

Hartman (2017) claims that a successful project is one that makes all stakeholders happy. However, Harrison and Lock (2016) argues that Hartman point of view is a good one that must be borne in mind although, in several instances, real success or failure cannot be measured just by the three primary objectives alone. Each stakeholder group will hold a different point of view as to which objectives should be valued or balanced. Kerzner (2017) asserts that the definition of project success has been modified to include completion within allocated period, within the budgeted cost, at the proper performance or specification level.

Also, with the acceptance by the customer with a minimum mutually agreed upon scope changes, without disturbing the main workflow of the organization and without changing the corporate culture. Toor and Ogunlana (2016) suggest that particular attention should also be paid to other success factors besides the golden triangle of time, budget, and quality. Yong and Mustaffa (2015) in their work studied the principle factors that are critical to the success of a school ICT project in Malaysia.

They found out that there is a high consistency in perception between respondents in recognizing the impact of human-related factors such as competence, commitment, communication and cooperation toward the success of a ICT project. Garbharran, Govender and Msani (2016) in their work titled success factors influencing project success in the education sector in South Africa found out that both project managers and contractors strongly support the identified success factors of competence, commitment, communication and cooperation as significant in achieving project success.

The first key step for any successful project is planning (Zwikael, 2018). Before any project starts you need to create a project plan. The project goals for each project should also be clearly outlined for it to be successful because the needs of the stakeholders must be met. The stakeholders in the project must be identified and they are the customers who will receive the deliverables, the project outputs for the project, the sponsor of the project, the manager of the project and team and the next step will be to find out the customer's needs (Kohli & Devaraj, 2016). This identification can be done by conducting stakeholder interviews. They should be engaged through requirement analysis and definition which should be the first step so that the end product which is ICT project will be beneficial to them. The next step will be the need to prioritize each requirement.

After the clear goals have been established then this should be recorded in the project plan. The next step will be the project deliverables which will be made up of a list of things that will be delivered by the project in order to meet those goals (Kohli & Devaraj, 2016). Specifications on when and how each item must be delivered must be done. These deliverables will need to be added

to the project plan that should indicate an estimated delivery date. During the scheduling phase is when the accurate delivery dates will be established.

Every project has its risks and it is very important to identify these risks as much as possible plus make preparations should they occur. The most common project risks are: very optimistic time and costs, review and feedback cycle being too slow for the customers, unexpected budget cuts, unclear roles and responsibilities, failure to seek input from the stakeholder, or failure to properly understand their needs, changing requirements by the stakeholders after the project has commenced, addition of new requirements by the stakeholders after the project has commenced, misunderstandings arising from poor communication, problems in terms of quality and rework, lack of resource commitment (Apulu & Latham, 2019). There should be a regular review of the risk log and additions of new risks as they occur during the lifetime of the project.

ICT projects implementation requires physical infrastructure that is not limited to power supply and structures like buildings, technical expertise and psychological readiness. ICT projects equally can only be managed and used by people with some level of technical skills (Broadley, 2016). Technological capability in terms of machinery, staff knowledge and the use of appropriate technology to ensure the availability of the products or services to customers is a key factor in technical requirement responsiveness. The existence of computerized systems for data exchange and automatic purchasing orders such as electronic data interchange systems and appropriate technology to ensure the visibility of information such as enterprise resource planning and ICT project management software (Kumar & Markeset, 2016).

Statement of the Problem

Training in ICT adequately prepares the youths by providing them with holistic knowledge to cope with the dynamic technological world which is gradually turning the world into a global village (Kavagi, 2017). Technological revolution in schools has been beset by theoretical inadequacies that have kept educational technology at the margins of the established educational system (Edward, 2018). In Kenya, the implementation of ICT project is in line with the government's Big 4 Agenda (PSCU, 2019). In a push to achieve the Big 4 Agenda, the government provides commercial state corporations with ICT resources in form of computer hardware, software and ICT teachers (Kavagi, 2017). However, research by Wanyeri (2018) revealed that projects involving ICT use and integration in the commercial state corporations in Kenya have both internal and external challenging factors leading to weak implementation of these ICT projects. According to Ongeti, (2018), computer literacy among the commercial state corporations in Kenya still lags behind at 12% compared to 19% for the private organizations. Also, Muchiri (2020) notes that among the commercial state corporations, only 38% are fully integrated ICT. Success in project implementation depends mainly on; good management and close alignment between projects particular requirements and facilities provided at the local level (UNEP, 2016).

A number of studies have been conducted on success factors in ICT project management process. For instance, globally the IMF (2015) conducted a survey in Australia and found out that though 92% had efficiency in implementation of ICT projects and seemed to have reduced overall costs. This study was however, conducted in a developed country and not in Kenya. Several studies have been done locally; Njeru and Kariuki (2015); Gathinji (2017); Brown (2015) and Clemons (2015) on factors affecting projects management but in different contexts. These studies however, did not look at the success factors in the implementation of ICT projects among commercial state corporations in Nairobi County. It is against this backdrop that this study seeks to examine the determinants towards successful implementation of information communication technology projects among commercial state corporations in Nairobi County.

Objectives of the Study

The main objective of the study is to examine the determinants towards successful implementation information communication technology projects among commercial state corporations in Nairobi County.

Specific Objectives

i. To assess the influence of the project financial resources on implementation of ICT projects among commercial state corporations in Nairobi County.

ii. To establish the influence of project stakeholder involvement on implementation of ICT projects among commercial state corporations in Nairobi County.

LITERATURE REVIEW

Theoretical Review

Theory of Constraints

Theory of constraints is an approach to the management of operations and it was developed by Goldratt (1939). It provides a management theory of how organizations should be run especially the when handling scarce financial resources. The concept was extended to theory of constraints (TOC) with a publication which views any manageable system as being limited in achieving more of its objectives by a very small number of constraints.

There is always one constraint and the TOC uses a focusing process to identify the constraint and restructure the resources around it (Kotabe & Murray, 2018) TOC emphasizes on the optimization of performance within a defined set of constraints of the existing process and it provides an action framework which combines the activities of the managers and the visible system elements (Hansen, Schaumburg-Muller & Pottenger, 2015).

TOC views project financial resources as systems consisting of resources, which are linked by the processes they perform. The goal of project financial resources serves as the primary judge of success. Within that system, a constraint is defined as anything that limits the project financial resources from achieving higher performance relative to its purpose (Tummala, Phillips & Johnson, 2016). The pervasiveness of interdependencies within the organization makes the analogy of a chain, or network of chains, very descriptive of a system's processes. Just as the strength of a chain is governed by its single weakest link, the TOC perspective is that the ability of any project to achieve its goal is governed by a single, or at most very few, constraints (European Commission, 2017).

The theory of constraints defines a set of tools that project managers can use to manage constraints, thereby increasing performance. Most projects can be viewed as a linked set of processes that transform inputs into outputs. TOC conceptually models this system as a chain, and advocates the familiar adage that a chain is only as strong as its weakest link (Busi & McIvor, 2018). This theory incorporates the idea that the goal or mission of an organization exists, and organizations can be measured and controlled by variations on three measures sufficiency of funds, funds disbursement timeline and reliability of funding. In the context the theory of constraints was used to assess the effect of the project financial resources on implementation of ICT projects among commercial state corporations in Nairobi County.

The Stakeholder Theory

Edward Freeman (1984) originally detailed the stakeholder theory of organizational management and business ethics that addresses morals and values in managing an organization. In the recent past, researchers have sought to clarify that stakeholder theory as more about process and procedural impartiality rather than the distribution of financial outputs and suggested that

education sector represent a diverse application of stakeholder theory (Alexander, 2009). However, stakeholder theory is rarely used in nonprofit research (Ashman, 2017). Education sector provide an exceptional context for studying diverse stakeholders and suggest a relatively unexploited area for stakeholder research (Bauman, 2017).

In terms of studies that refer to both nonprofits and stakeholder theory, education sector have often been described as a stakeholder of companies rather than entities having stakeholders of their own (Kaptein, 2017). This is evident in Palevich (2012), as the text assumed a commercial identity throughout and refers to education sector as a possible stakeholder of the organization (Bovens, 2007).

This is also evident in a number of case studies: Wilaert et al (2015) recognized education sector as a stakeholder of other organizations (Chang *et al.,* 2017). However, among those studies that focus on education sector, community stakeholders may include different identities than those cited in studies that assume a corporate point of view (Collier, 2015). Thus, not-for-profit stakeholders may include funders, volunteers, clients, referral agencies, and government officials, among others (Jensen, 2018).

Within the education sector literature, stakeholders are mainly thought of as people or entities to which profits are accountable (Fadzil & Jantan, 2015). For example, in Hausman (2015), key stakeholders included funders, recipients, regulators, and organizational partners to whom nonprofits may have to clarify what they have or have not done (Gadja, 2016). Education sector hold multiple accountabilities and guaranteeing the organization's accountability is increasingly important as the range of stakeholder groups expands (Collier, 2015).

In addition to categorizing stakeholders in terms of accountabilities, researchers have found other ways to distinguish community stakeholder groups (Greenfield, 2007). Brennan (2015), for instance, offered an economic description of stakeholders in which employees are not included (Hausman, 2015). However, most researchers use classification systems that differentiate between internal and external stakeholders (Jensen, 2018). The stakeholders' theory was used to establish the effect of project stakeholder involvement on implementation of ICT projects among commercial state corporations in Nairobi County.

Conceptual Framework

Conceptual framework is a detailed description of the phenomenon under the study accompanied by the graphical or visual depiction of the major variable of the study (Kothari, 2016). According to Dunn (2017) conceptual framework is diagrammatical representation that shows the relationship between dependent variable and independent variables.

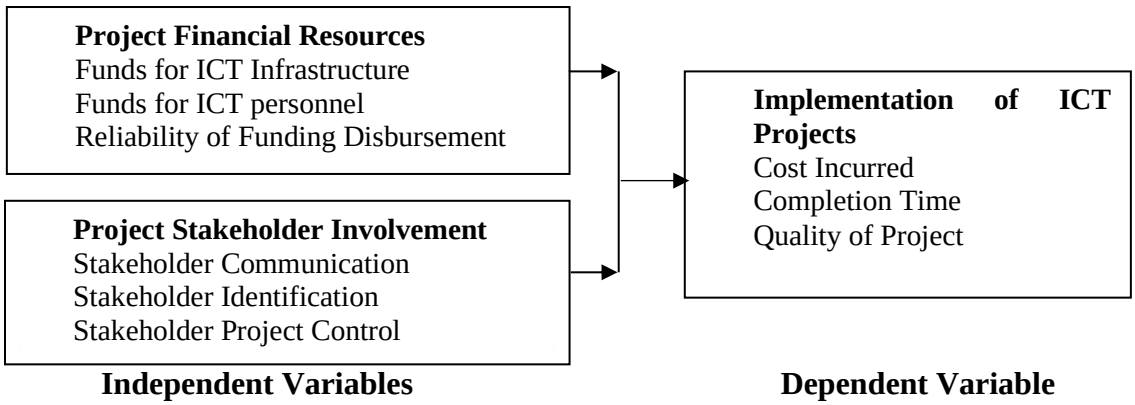

Figure 1: Conceptual Framework

Operationalization of variables

Project Financial Resources

Project finance may come from a variety of sources. The main sources include equity, debt and government grants. Financing from these alternative sources have important implications on project's overall cost, cash flow, ultimate liability and claims to project incomes and assets. Good Financial Management is important to a country's development because it provides assurance to citizens that their taxes are being used appropriately, to donors and lenders that the funds they provide are being used as intended, and to the private sector that there is an appropriate environment for investment and growth Rono (2017). Financial resources are needed to acquire appropriate equipment, services, and supplies that are needed in order to implement the program (e.g. personnel monitoring devices, equipment repair/calibration); additionally, there are licensing and inspection fees (Mbaabu, 2017).

Project Stakeholder Involvement

Stakeholder involvement is the process by which an organization involves people who may be affected by the decisions it makes or can influence the implementation of its decisions. Stakeholder engagement helps organizations to proactively consider the needs and desires of anyone who has a stake in their organization, which can foster connections, trust, confidence, and buy-in for your organization's key initiatives. When done well, stakeholder engagement can mitigate potential risks and conflicts with stakeholder groups, including uncertainty, dissatisfaction, misalignment, disengagement, and resistance to change. When it comes to strategic planning, stakeholder engagement is critical. It's important that the stakeholders understand why the organization exist, where it want to go, and how it is going to get there (Eshiwani, 2015).

Implementation of ICT Projects

The attributes of project performance which will be taken into consideration in this study are: cost incurred, quality of output and completion time. ICT project management is a key function of any organization, public or private and in this era of globalization with the advent of entrepreneurial organizations, management of projects in the education sector has gained more prominence (Tukamuhabwa, 2016).

Effective management of the function prevents the possibility of poor project performance and when attributed to non-adherence to proper ICT project management processes and procedures; is an indicator of poor management of the ICT project management function (World Bank, 2017). Therefore, effective management of the ICT project management function is a precursor to the project performance of the system in achieving its intended objectives and that of the organization as a whole.

Success standards when adopted can provide the decision-makers in the ICT project management department with unbiased and objective information regarding the project performance of the ICT project management function. The evaluation or measurement of project performance has always been a vexing problem for ICT project management professionals (Agaba & Shipman, 2017). He asserts that traditionally; firms concentrate on analyzing their own internal trends which does not portray the true picture on how they compare well with competitors. Such an approach ignores what the competitors are doing.

Empirical Review

Project Financial Resources and Implementation of ICT Projects

The cost of ICT materials was considered to be among the problems that could negatively affect the implementation of ICT. The higher the cost of computers and their accessories, the fewer computers one can buy with the limited resources (Sharma, 2018). According to Tusubira and

Mulira (2018) the cost of a Desktop Computer connected to the Internet is often prohibitive for most people in developing countries and for those who can afford a PC, routine maintenance, virus protection and servicing, is yet another problem that is not easily manageable by the first generation computer users, technology development has proven to be quite expensive in all areas of consideration and infrastructure. Makau (2016) established that financial resources form a key factor to the successful implementation and integration of ICT projects

Limited financial resources in ICT implementation is reported as being a great impediment, ICT and lack of computers and software in an organization may limit what organization are able to do with ICT (Mumtaz, 2017). Zziwa (2016) in her paper on networking and use of information technologies in the French education system reported that the main obstacle to ICT project implementation in schools is the high cost of computer peripherals. Aduwa and Lyamu (2015) established high cost of hardware and software applications, as one of the problems hindering integration of ICT in Nigerian secondary schools. Tusubira and Mulira, (2019) focusing on the challenges of integrating ICT in enterprises reported that financial resources to buy computers and software are relative to the perceived benefits. Developing countries have a significantly lower rate of diffusion and use of ICT than developed countries (Sharma, 2017). Malcom and Godwyl (2018) in the study, diffusion of information communication technology in selected Ghanaian secondary schools reveals that one fundamental problem facing ICT implementation in schools is high cost price of computers

Rono (2017) argued that cost sharing was the only viable solution to easing the burden of project financial resources on the government. He pointed out that if the education system was to keep on expanding without adversely affecting the quality of education then the beneficiaries of education had to contribute to its project financial resources. The availability and use of teaching aids in schools were ranked among the most influential factors, which could explain the characteristics of poor examination results in schools (Kombo, 2016).

Ssewanyana and Busler (2017) in their study, adoption and usage of ICT in developing countries, stated that usage of computers and internet is high in medium and large firms, and especially firms owned by foreigners. The small firms which are mainly locally owned, have low usage due to the high cost of required investment, limited knowledge and skills, and being very responsive to charges. The findings further indicate that people do appreciate the contribution of ICT to the performance of their firms, but the various barriers such as high costs of hardware, software, Internet and ICT professionals among others are a hindrance to their progress. According to When the cost of ICT training materials is high, ICT implementation in institutions of higher learning tend to be minimal and vice versa. High cost of ICT training materials could be assumed a barrier to teaching using computers in institutions of higher learning (Namukangula, 2017).

Eshiwani (2015) points out that economically richer districts were able to put up classrooms, workshops, home science rooms and laboratories in secondary schools. But a study by Gathinji (2017) in Nyeri revealed that most public schools suffered from serious shortages of teaching/learning materials like textbooks and science equipment among others. Also Wanjau (2016) found that 90% of the public schools in Nairobi province lacked adequate physical facilities whereas a mere 10% had adequate facilities. It was further found that 3% of these schools had facilities that were old and were in need of repair.

Nguru (2015) recognizes income tax as the principal source of educational revenue in Kenya. He, however, points out that capital development and maintenance of schools in Kenya have been based almost entirely on the effort of community self-help. Project financial resources the ICT of school facilities in Kenya requires that an equitable taxation structure be established so that regional, district or local school community tax payers would provide some funds to help finance school development projects (Olembo, 2018).

Project Stakeholder Involvement and Implementation of ICT Projects

One of the most critical aspects of managing a project is doing what's necessary to develop and control relationships with all individuals that the project impacts (Griffin, 2017). By successfully managing stakeholders, one is able to keep a lid on scope creep, ensure project requirements are aligned, understand tolerance for risk, and mitigate issues that would otherwise delay the project. Good stakeholder management is a testimony to your influence in an organization, and a key component to a healthy project environment (Happy, 2017).

Kosgei and Gitau (2016) conducted a study on the effect of stakeholder management on organizational performance. The research involved a cross sectional study design that was carried out in Kenya Airways, where a sample of 82 respondents was selected from a target population of 272 KQ employees to answer research questions of interest. Stratified random sampling was used to come up with the sample size since the population in different departments at KQ was considered to be heterogeneous. The study established that understanding and practicing of stakeholder management is an essential prerequisite for staying competitive in the global race and enhancing profitably in the market.

Wangeci (2015) conducted a study on stakeholder involvement and supply chain performance in the alcoholic beverage industry in Kenya. The specific objectives of the study were to establish the extent of SRM in alcoholic beverage industry; to determine the impact of SRM on supply chain performance in alcoholic beverage industry in Kenya and to determine the challenges faced in implementing SRM in alcoholic beverage industry in Kenya. The study adopted descriptive design to describe the impact of SRM on organizational performance. The target population and sample was from Procurement staff from alcoholic beverage industries. Regression analysis was used to determine the relationships between the variables. The study concluded that stakeholder involvement influences organization performance

Other stakeholder-based contributions to project success include executive support which is visible sponsorship toward the core values of the project; the emotional maturity of the project manager that is the ability to rally stakeholders to the common purpose; and effective use of the organization's ecosystem that includes the infrastructure, procurement, facilities, legal, etc.in order to support the project (Buono, 2018).

With this, project managers have to be able to define their stakeholders and gain their support. Chinyio (2017) defines a stakeholder as the person, or organization that is actively involved in the project, or whose interests may be positively or negatively affected by execution or completion of the project. A stakeholder may also exert influence over the project and its deliverables (Gray & Larson, 2015). An output of the initiation step of a project is the charter which often includes a section listing the organization's functional areas involved in the project. So, early in the project startup process, you begin to uncover project stakeholders.

Mwirigi (2018) in his study sought to establish the role of stakeholder involvement in the growth of small firms in Kenya. The target population of the study was small enterprises that are loan clients of FAULU Kenya. To understand the role played by supply chain relationships among respondent firms, the study examined various relationships. The research found out that supply chain relationships play a critical role in the growth of small enterprises. They contribute to the growth and profitability of these firms in many ways. Findings of this study indicated that a strong sustainable relationship between an enterprise and its customers on one hand, and its suppliers on the other hand have a bearing on the speed of growth in transactions and profitability. The study concluded that stakeholder involvement influences organization performance.

RESEARCH METHODOLOGY

This study employed a descriptive research design. The target population was the management employees in the thirty seven (37) commercial state corporations in Nairobi County. The study targeted two top managers, 5 middle level managers and 7 lower level managers in every state corporation. The study used stratified random sampling technique where the subjects were selected in such a way that the existing subgroups in the population are more or less reproduced in the sample (Kothari, 2018). Stratified random sampling as a method of sampling that involves the division of a population into smaller groups known as strata, (Kasomo, 2017). In this study, state corporations from different categories formed strata and stratified random was used to select sample size from each stratum.

The primary data was obtained by means of a self-administered questionnaire by the respondent. Kothari (2018) state that the size of a sample to be used for pilot testing varies depending on time, costs and practicality, but the same would tend to be 5-10 per cent of the main survey. In this study, 10% of the questionnaires were tested to ensure that they are relevant and effective. Therefore, 13 questionnaires were piloted to respondents not part of the sample. Piloting enabled the researcher to ascertain the validity and reliability of the instrument.

The Statistical Package for Social Sciences (SPSS) version 25 was used to perform the analysis of quantitative data. SPSS version 25 has got descriptive statistics features that assist in variable response comparison, gives clear indication of response frequencies, it is user friendly and is more stable. Prior to processing the responses, the filled questionnaires were edited and checked for completeness. Once data analysis is done, only the relevant content was presented in form of tables and graphs. Qualitative data was presented in prose. Pearson correlation coefficient was used to determine the magnitude and the direction of the relationships between the variables (Kothari, 2015). A multiple regression model was developed to present the relationship.

RESEARCH FINDINGS AND DISCUSSIONS

The researcher distributed 227 questionnaires to the respondents during data collection process and 221 were fully filled and returned to the researcher thus making a response rate of 97.4%. Kothari (2018) argues that a response rate which is more than 50% is considered adequate while excellent response rate is usually above 70%. This implies that the response rate in this research is good for making conclusions as well as recommendations.

Descriptive statistics

Project Financial Resources and Implementation of ICT projects

The first specific objective of the study was to assess the influence of the project financial resources on implementation of ICT projects among commercial state corporations in Nairobi County. The participants were requested to indicate their level of agreement on various statements related to project financial resources and implementation of ICT projects among commercial state corporations in Nairobi County. A five point Likert scale was used Whereby 1 represent strongly disagree, 2 is disagree, 3 is neutral, 4 is agree and 5 is strongly agree. The results were as shown Table 1.

From the results, the respondents agreed that the financial resources allocated to ICT projects in their organization are sufficient to meet project goals and objectives. This is shown by a mean of 3.915 (std. dv = 0.776).As shown by a mean of 3.908 (std. dv = 0.836), the respondents agreed that ICT project budgets in their organization are allocated strategically and in alignment with organizational goals. Further, with a mean of 3.870 (std. dv = 0.972), the respondents agreed that their organization actively seeks external funding or partnerships to support ICT initiatives.

The participants agreed that they effectively track and manage expenses during ICT project implementation to stay within budget. This is shown by a mean of 3.812 (std. dv = 1.005). As shown in the results, the respondents agreed that their organization has faced financial challenges or constraints that have affected the successful implementation of ICT projects. This is shown by a mean of 3.802 (std. dv = 0.608). As shown by a mean of 3.786 (std. dv = 0.897), the respondents agreed that they have a contingency fund or risk management strategy in place for unexpected financial challenges during ICT project implementation.

Table 1: Project Financial Resources and Implementation of ICT projects

	Mean	Std. Deviation
The financial resources allocated to ICT projects in our organization are sufficient to meet project goals and objectives	3.915	0.776
ICT project budgets in our organization are allocated strategically and in alignment with organizational goals.	3.908	0.836
Our organization actively seeks external funding or partnerships to support ICT initiatives	3.870	0.972
We effectively track and manage expenses during ICT project implementation to stay within budget.	3.812	1.005
Our organization has faced financial challenges or constraints that have affected the successful implementation of ICT projects	3.802	0.608
We have a contingency fund or risk management strategy in place for unexpected financial challenges during ICT project implementation	3.786	0.897
Aggregate	**3.822**	**0.845**

Project Stakeholder Involvement and Implementation of ICT Projects

The second specific objective of the study was to establish the influence of project stakeholder involvement on implementation of ICT projects among commercial state corporations in Nairobi County. The participants were requested to indicate their level of agreement on various statements related to project stakeholder involvement and implementation of ICT projects among commercial state corporations in Nairobi County. A five point Likert scale was used Whereby 1 represent strongly disagree, 2 is disagree, 3 is neutral, 4 is agree and 5 is strongly agree. The results were as shown Table 2.

From the results, the respondents agreed that stakeholders from different departments and levels of their organization are actively involved in ICT project planning. This is shown by a mean of 3.955 (std. dv = 0.172). As shown by a mean of 3.855 (std. dv = 0.839), the respondents agreed that they regularly engage external stakeholders such as clients, customers, or regulatory bodies in their ICT projects. Further, with a mean of 3.842 (std. dv = 0.898), the respondents agreed that stakeholder feedback and input are valued and integrated into the decision-making process during ICT project implementation. The participants agreed that their organization has a well-defined process for identifying and prioritizing stakeholders for each ICT project. This is shown by a mean of 3.815 (std. dv = 0.112).

As shown in the results, the respondents agreed that stakeholders are adequately informed about the progress and status of ICT projects. This is shown by a mean of 3.758 (std. dv = 0.969). As shown by a mean of 3.723 (std. dv = 0.732), the respondents agreed that stakeholders have the opportunity to provide input and influence project scope and requirements.

Table 2: Project Stakeholder Involvement and Implementation of ICT Projects

	Mean	Std. Dev.
Stakeholders from different departments and levels of our organization are actively involved in ICT project planning	3.955	0.172
We regularly engage external stakeholders such as clients, customers, or regulatory bodies in our ICT projects	3.855	0.839
Stakeholder feedback and input are valued and integrated into the decision-making process during ICT project implementation	3.842	0.898
Our organization has a well-defined process for identifying and prioritizing stakeholders for each ICT project	3.815	0.112
Stakeholders are adequately informed about the progress and status of ICT projects.	3.758	0.969
Stakeholders have the opportunity to provide input and influence project scope and requirements.	3.723	0.732
Aggregate	**3.372**	**0.872**

Implementation of ICT Projects among Commercial State Corporations

The participants were requested to indicate their level of agreement on various statements related to implementation of ICT projects among commercial state corporations in Nairobi County. A five point Likert scale was used Whereby 1 represent strongly disagree, 2 is disagree, 3 is neutral, 4 is agree and 5 is strongly agree. The results were as shown Table 3.

From the results, the respondents agreed that projects in their organization are implemented within the set budget. This is shown by a mean of 3.917 (std. dv = 0.896). As shown by a mean of 3.902 (std. dv = 0.896), the respondents agreed that in some projects they have cases of cost overrun. Further, with a mean of 3.864 (std. dv = 0.915), the respondents agreed that their organization ensures projects are implemented within the set standards. In addition, the participants agreed that projects in their organization are implemented within the set timeframe. This is shown by a mean of 3.842 (std. dv = 0.785). As shown in the results, the respondents agreed that they are satisfied with the level of project implementation in their organization. This is shown by a mean of 3.711 (std. dv = 0.985).

Table 3: Implementation of ICT Projects

	Mean	Std. Dev.
Projects in our organization are implemented within the set budget	3.917	0.896
In some projects we have cases of cost overrun	3.902	0.896
Our organization ensures projects are implemented within the set standards	3.864	0.915
Projects in our organization are implemented within the set timeframe	3.842	0.785
Am satisfied with the level of project implementation in our organization	3.711	0.985
Aggregate	**3.841**	**0.913**

Inferential Statistics

Correlation Analysis

This research adopted Pearson correlation analysis determine how the dependent variable (implementation of ICT projects among commercial state corporations in Nairobi County) relates with the independent variables (project financial resources, project stakeholder involvement). The findings were as depicted in Table 4.

From the results, there was a very strong relationship between project financial resources and implementation of ICT projects among commercial state corporations in Nairobi County (r = 0.828, p value =0.001). The relationship was significant since the p value 0.001 was less than 0.05 (significant level). The findings are in line with the findings of Tusubira and Mulira (2018) who indicated that there is a very strong relationship between project financial resources and project implementation.

Moreover, there was a very strong relationship between project stakeholder involvement and implementation of ICT projects among commercial state corporations in Nairobi County (r = 0.838, p value =0.001). The relationship was significant since the p value 0.001 was less than 0.05 (significant level). The findings are in line with the findings of Kosgei and Gitau (2016) who indicated that there is a very strong relationship between project stakeholder involvement and project implementation.

Table 4: Correlation Coefficients

		Project Implementation	Project Financial Resources	Project Stakeholder Involvement
Project Implementation	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	221		
Project Financial Resources	Pearson Correlation	.828**	1	
	Sig. (2-tailed)	.001		
	N	221	221	
Project Stakeholder Involvement	Pearson Correlation	.838**	.297	1
	Sig. (2-tailed)	.001	.060	
	N	221	221	221

Regression Analysis

Multivariate regression analysis was used to assess the relationship between independent variables (project financial resources, project stakeholder involvement) and the dependent variable (implementation of ICT projects among commercial state corporations in Nairobi County).

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 0.851. This implied that 85.1% of the variation in the dependent variable (implementation of ICT projects among commercial state corporations in Nairobi County) could be explained by independent variables (project financial resources, project stakeholder involvement).

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.923[a]	.851	.853	.10482

a. Predictors: (Constant), project financial resources, project stakeholder involvement

The ANOVA was used to determine whether the model was a good fit for the data. F calculated was 176.88 while the F critical was 2.462. The p value was 0.002. Since the F-calculated was greater than the F-critical and the p value 0.002 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 project financial resources, project stakeholder involvement on implementation of ICT projects among commercial state corporations in Nairobi County.

Table 6: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.028	4	3.007	176.88	.002[b]
	Residual	3.668	216	.017		
	Total	115.695	220			

a. Dependent Variable: implementation of ICT projects
b. Predictors: (Constant), project financial resources, project stakeholder involvement

The regression model was as follows:

$$\mathbf{Y = 0.342 + 0.397X_1 + 0.387X_2 + +\varepsilon}$$

According to the results, project financial resources has a significant effect on implementation of ICT projects among commercial state corporations in Nairobi County β_1=0.397, p value= 0.003). The relationship was considered significant since the p value 0.003 was less than the significant level of 0.05. The findings are in line with the findings of Tusubira and Mulira (2018) who indicated that there is a very strong relationship between project financial resources and project implementation

The results also revealed that project stakeholder involvement has a significant effect on implementation of ICT projects among commercial state corporations in Nairobi County β1=0.387, 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 findings of Kosgei and Gitau (2016) who indicated that there is a very strong relationship between project stakeholder involvement and project implementation.

Table 7: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.342	0.089		3.843	0.002
Project financial resources	0.397	0.097	0.398	4.093	0.003
Project stakeholder involvement	0.387	0.097	0.389	3.990	0.002

Conclusions of the Study

The study concludes that project financial resources has a positive and significant influence on implementation of ICT projects among commercial state corporations in Nairobi County. Findings revealed that funds for ICT Infrastructure, funds for ICT personnel and reliability of funding disbursement influence implementation of ICT projects among commercial state corporations in Nairobi County

In addition, the study concludes that project stakeholder involvement has a positive and significant influence on implementation of ICT projects among commercial state corporations in Nairobi County. Findings revealed that stakeholder communication, stakeholder Identification and stakeholder project control influence implementation of ICT projects among commercial state corporations in Nairobi County

Recommendations of the Study

Based on the study findings, this study recommends the following;

The management of commercial state corporations in Nairobi county Kenya should ensure proper budgeting and funding of ICT projects to facilitate implementation of these projects. The management should also ensure funds for ICT implementation are disbursed on time

In addition the management should give priority to stakeholder communication, stakeholder Identification and stakeholder project control since the study found that project stakeholder involvement has a positive and significant influence on implementation of ICT projects among commercial state corporations in Nairobi County

Areas for Further Studies

This study sought to examine the determinants towards successful implementation information communication technology projects among commercial state corporations in Nairobi County. However, this study was limited to commercial state corporations in Nairobi County; hence the findings cannot be generalized to the private sector in Kenya. Therefore, the study recommends that further studies should be conducted to establish the determinants towards successful implementation information communication technology projects among private companies in Kenya. In addition, the study found that 85.1% of the implementation of ICT projects among commercial state corporations in Nairobi County could be explained by project financial resources, project stakeholder involvement. As such, further studies should be conducted on other factors (14.9%) affecting implementation of ICT projects among commercial state corporations in Nairobi County

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