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Impediments on the Performance of Information Communication Technology Service Projects: A Case of Kenya Power Company

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Abstract

Rationale of Study – Information and Communication Technology (ICT) service organisations offer advanced business services and products to their customers and users through complex, innovative, and tailored programs and projects. Even with the strategic importance and trust placed in implementing these ICT service projects, organisations are facing an exorbitantly high percentage of ICT service project failures. This research focused on determining the impediments to the performance of ICT service projects in organisations.

Methodology – The target population comprised 65 of Kenya Power's technical project team members. Due to the small size of the population, a census sampling method was adopted. A questionnaire was used in data collection. The reliability of the questionnaire was determined using McDonald's omega statistic coefficient. The collected data was analysed using descriptive statistics methods of mean and standard deviation and inferential statistics methods of correlation and regression analysis.

Findings – The study's results were presented through statistical narratives and tables. The results confirmed that most respondents believed that technological, leadership, environmental and other issues influenced the success of ICT service projects in organisations. The study concludes that constraints are inevitable in any business environment supported by ICT services, and no organisation can thrive without them. As such, it is the responsibility of the organisational management to address them accordingly for the success of their ICT service projects.

Implications – This research shall enhance ICT service projects' policies and enlighten the leadership of organisations and other stakeholders when making informed decisions on improving ICT service projects' success.

Originality – This research is pertinent to Kenya Power Company and its stakeholders, policymakers, practitioners and theorists. The researcher recommends further research to establish other impediments not covered in this study that may affect project performance.

Keywords

Impediments, Constraints, Information and Communication Technology, Projects, Management

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1 Background to the Study

Information Communication Technology (ICT) services refer to the application and use of technology for communication, data processing and management of information. In order to assist organisations in using technology, these services include network hardware and software, telecommunications, data management, security, technical support, troubleshooting, and consulting. ICT services facilitate effective data processing, cooperation, and communication across various platforms (Federici & Parisi, 2022). ICT service projects aim to raise one or more performance levels of these technologies. The projects assist in expanding businesses and enabling changes in organisations' operations. ICT service projects are becoming increasingly important in today's corporate environment. ICT service projects power around 90% of all corporate processes, ranging from higher-level administrative tasks to customer recruitment. Businesses heavily depend on technological solutions (Abir & Khan, 2022). Governments and businesses are investing heavily in and relying heavily on ICT service efforts to boost productivity through the streamlining of business operations and to promote efficiency and effectiveness (Ndemo, 2012).

Due to the increased unpredictability of the current business climate and the fact that change will never disappear, agile project management of ICT services is necessary (Abir & Khan, 2022). These days, project management is essential to managing ICT projects in businesses (Schwalbe, 2015). Although there are many project management methodologies (PMM) and best practices for ICT project management, many ICT projects fail locally and globally, according to the analysis. Factors like a lack of qualified staff, an inadequate budget, poor project management, imprecise project requirements, improper communication, insufficient resources, and a lack of user involvement largely cause the failure of in-house ICT service projects. Projects In Controlled Environments (PRINCE2), PRINCE2 Agile, Information Technology Infrastructure Library (ITIL), Agile PM (APM), Adaptive Project Framework (APF), and Project Management Body of Knowledge (PMBOK) are the most widely used modern ICT project management standard project management methodologies and practices (Ng, 2018).

Similarly, Nyamwesa (2024) suggests that several factors significantly contribute to the failure of in-house ICT service projects, including a lack of qualified staff, inadequate budget allocation, poor project management, a lack of precise project requirements, improper communication, an inadequate number of resources, and a lack of user involvement. This drives the current study's investigation of the variables linked to a high project failure rate.

Organisations suffer an alarmingly high number of ICT project failures: 35% of

projects are complete failures, 50% of projects are partial failures, and 15% of projects are successes, despite the strategic importance and faith placed in completing ICT projects (Munyare, 2018). ICT projects face issues that need to be resolved, such as challenges related to internal communication, project organisation, and project ownership (Vaskin, 2024). This study took place at Kenya Power Company in Nairobi, Kenya. The company was chosen because it could provide the requisite information to meet the study's objective. The unit of analysis was the company's project team members. Questionnaires were used for data collection, and data analysis was achieved through descriptive and inferential statistics, and the results were presented in the form of statistical narratives and tables.

Project management is utilised by Kenya Power Company (KPC), a corporation that has been actively involved in implementing ICT service projects within its organisation. Two stages of the KPC's project management cycle were examined in research on applying project management to enhance performance indicators in a changing environment. Sometimes, the actual building phase is shorter than the preceding tendering process. Out of all the projects examined, 10% were finished late, 5% were finished early, and 85% were determined to be incomplete and late. According to Alghail et al. (2021) and Asiaei et al. (2021), there was a variance of 23% in the completion of projects to design standards, 67% in completion with revisions, and 10% with some missing elements.

The success or failure of ICT projects at KPC can be attributed to several factors, including the nature of the business case, change management, the organisation's current culture, the makeup of the project team, effective communication, top-level management support, and project leadership (Kemei, 2010). Other reasons for success and failure include inadequate training and expertise of the implementers, the choice of knowledgeable consultants for ICT projects, and the post-implementation assessments and assistance.

Many project initiatives fall short of expectations, and improving project performance is difficult. Despite their benefits, the international initiatives, and Kenya being among the pioneer adopters and marketers of energy-efficient stoves, the adoption rate is still less than 15% countrywide (Maiyane, 2024). Four factors were seen as critical to project success at the Kenya power company: project goal setting and direction, project team competence, project communication, and project finance management practices

ICT project implementation success was also impacted by external natural disasters, sabotage of the project development process, and a lack of faith in the technology's viability (Kemei, 2010). Project control procedures

directly affect the success of projects, as projects depend on dependable control methods to accomplish their goals and provide a satisfactory final product (Kevin & Peter, 2024). The study assessed the characteristics of several contemporary project management approaches worldwide, with a particular emphasis on PRINCE2 Agile and an emphasis on agile approaches. This research aimed to determine the constraints hampering the success of ICT service projects in various organisations. The structure of this paper entails the theoretical foundation and a review of related literature, methods and materials, results and discussions, conclusions and directions for future studies, and the study's implications.

2 Theoretical Framework

This section explicates the theory of constraints that underpins the study. It explains the various constructs that drive this research.

Constraints are obstacles or roadblocks that prevent a process or project from accomplishing its performance based on objectives. No matter how effective or successful a process or project appears to be, there is always at least one constraint that affects how well it works, consequently affecting the goal or performance of the project. A management theory called the Theory of Constraints (TOC) aims to enhance project performance by concentrating on the weakest ring or rings in the chain. It believes that relatively few constraints prevent any management system from accomplishing its objectives (Boberg, 2021).

To thrive in a global economy, businesses in the production or service sectors should concentrate more on comprehending their organisational structure regarding procedures. ICT service project organisations are also having difficulty surviving in this global rivalry. According to Eliyahu Goldratt's TOC, an organisation can attain notable expansion by recognising and controlling certain constraints.

The nature of ICT service projects and the Volatile, Uncertain, Complex and Ambiguous (VUCA) environment in which they operate should be the primary focus of ICT service project organisations, managers, and team members. They must thoroughly understand the project they are involved in and the organisational environment in which it operates. They should have an acute sense of detail and be able to go past the visible to identify the underlying constraints influencing the ICT service projects' performance. The TOC becomes a significant theory concentrating on the weakest aspects or limitations impacting project performance.

Once the constraints have been identified, the next big step is to try to figure out how these constraints relate to one another, find ways to manage them, make the necessary adjustments, implement new strategies if

necessary, and continuously monitor the project to make sure that these constraints do not become serious or even permanent blockers to success (Ominde, 2021). The TOC process, which consists of five steps, identifying, exploiting, subordinating, elevating, and repeating, should be followed. This study found The theory of constraints helpful, particularly in identifying and addressing the underlying reasons for the troubled performance of ICT service projects in organisations. Therefore, this research paper focused on determining the impediments affecting the performance of ICT service projects at the Kenya Power Company. This paper is structured into various sections, which include a review of related literature, the theory underpinning the study, the methodology followed, the findings of the study, the conclusions and directions for further research, and the implications of the study.

3 Literature Review

Relevant literature on constraints was reviewed to inform this study. To successfully manage projects in the VUCA world, business enterprises in developing nations must be knowledgeable, astute, and resourceful (Kissi et al., 2019). Organisations encounter distinct difficulties overseeing projects across various settings in the dynamic and fiercely competitive business landscape. Stakeholder participation, cultural sensitivity, and effective communication are essential success criteria for business project management. Conflicting priorities, resource limitations, and various organisational structures present these companies' project management coordination and integration challenges (Ekemezie, 2024). Orieno (2024) makes the case that project management techniques should embrace sustainability and note the difficulties and new trends.

ICT service projects differ from others because their complexity leads to lower-quality outcomes (Kähkönen & Rannisto, 2015). These projects are vulnerable to a variety of risks, such as complexity, multi-member teams with varying specialisations, challenges with control and management, a lack of work discipline and precise specifications, and a complete lack of accuracy in estimating costs, schedules, scope, risks, and customer quality expectations. These threats keep ICT initiatives from producing the desired outcome (Menezes, 2019). Some of the obstacles impeding the success of ICT service projects are explained in the sections below;

Numerous governments are adopting ICT service project systems to achieve strategic objectives. Project success is influenced by the mindset of the project team and other stakeholders who either accept or reject technology that has been moved into the organisation's operational use (Mwitia, 2017). In this computerised era, governments in

developed and emerging nations endorse and adopt ICT solutions to enhance public sector service delivery to their inhabitants. Because of infrastructure, there are increasing demands on the government regarding information handling. This is because citizens are looking for and prioritising greater service delivery to improve the quality of their lives. Reliable information is essential to successfully and efficiently providing services in public institutions.

Technology is essential in an endeavour to boost ICT service project performance. Project failures could result from several factors, including lack of knowledge and expertise regarding ICT usage, availability, reliability, interoperability of ICT software projects, computing devices, internet connectivity, use of outdated legacy systems, inadequate computing devices, low internet speed, unstable connectivity, unreliability of ICT solutions, the inability of computerised systems to share information, and unavailability of systems.

Projects face financial sustainability issues due to heavy reliance on donor funding and political interference that sometimes disrupts their continuity. While tailored turnaround strategies, including technological innovation and community engagement, substantially improve project performance, the sustainability of these improvements depends on addressing political and financial stability (Otundo, 2024). The recommendation, therefore, would be strengthened stakeholder collaboration, greater reliance on technology, alternative financing mechanisms, and continuous monitoring and capacity-building efforts to enhance the long-term effectiveness of donor-funded projects.

Due to a lack of coordination, the exact product has received various investments, resulting in donor financing and growing ICT budgets (Miheso, 2013). One possible explanation for these shortcomings could be the absence of master plans and ICT policies to direct investment. Another cause of failure is unstable ICT resources (Ndegwa et al., 2017). However, Mwitia (2017) asserts in a study on the discrepancies in projects within Kenyan government agencies that the availability of funding, problems with infrastructure connectivity, problems with team competencies, and problems with top management support all play a role in project success or failure.

Kipkemei et al. (2024) argue that there is a robust positive correlation between strategic alignment and various metrics of project success, including completion rate and schedule adherence. It was observed that project complexity and strategic alignment, particularly in managing intricate projects, are key to enhancing performance. They advocated for integrating strategic alignment principles throughout the project management

lifecycle. Clear and transparent communication of strategy, coupled with robust mechanisms for aligning project objectives with organisational strategy, emerges as an imperative strategy for enhancing project outcomes. By heeding these suggestions, stakeholders stand to capitalise on strategic alignment as a potent lever for driving project success.

The struggle between the forces of change and the status quo is cited as a significant factor in project failure in Kenyan companies (Kamau & Mohamed, 2015; Ondego & Moturi, 2016). Ambira (2016) cites the Ministry of Lands as an example of an organisation where land record tracking and validation can be done online. However, the project has been ongoing for more than ten years without being completed or put into commission. ICT service projects' performance is determined by how well they handle staff resistance to change, employee training deficiencies, and inadequate change communication. Another issue that Kenyan businesses face is the inability to institutionalise projects, which still leads to some ventures failing. Resources for projects are few regarding personnel, implementation funding, and attention or priority from upper management (Kamau & Mohamed, 2015). ICT projects started by fervent or evangelistic CEOs who eventually depart the company, and "their" projects become orphaned and finally die off owing to a lack of regular management monitoring, which are victims of such phenomenon.

Even businesses that follow a methodology apply its concepts mechanically since they do not understand scaling and localising to fit the specific project or the project environment (Holbeche, 2023). Research has shown that there is a dearth of reviews of the literature on the difficulties facing ICT projects, and there is also a dearth of information on how to modify project management approaches, instruments, and strategies to fit the context of developing nations in terms of culture and economy (Jacks, 2024). It can either support or discourage specific behaviours among employees that are necessary to accomplish project goals at a given level (Alkhlaifat et al., 2019). The fundamental reason for project failure or poorer performance is an organisational culture that is unprepared and unfavourable to project initiation and successful completion. The backing of upper management significantly influences the investment and success of ICT service projects. According to Meredith and Zwikael (2019), high levels of managerial support, effective communication, the project's purpose and goals, and stakeholder engagement are all necessary for project success. By controlling for project complexity, Orcutt (2012) evaluated the association between project manager competencies and success. The findings indicated a positive

correlation between managerial and intellectual abilities and project success.

Because top management support significantly impacts the project's success, it is crucial to distinguish between the overall success and failure of ICT project implementation. Effective top management support strategies vary across industries, but they all significantly impact how ICT projects are carried out (Hagebakken, 2024). To support ICT initiatives, management must provide adequate resources, including money for software and hardware purchases and hiring personnel to carry out project implementation (Shao, 2024). In addition to the other elements influencing the implementation of ICT projects in government agencies, top management support is a vital success factor (Meredith & Zwikael, 2019).

Project success increases when a relationship is built between suppliers and clients. In order to guarantee cooperation, a constant flow of information, and a focus on suppliers' ability, a comprehensive and holistic viewpoint has been adopted. Project success is, therefore, impacted by the relationship between customers and suppliers (Wanjala et al., 2017). It is important to recognise that the implementation of the project has neglected the human element. It is a well-established fact that human capital is essential to every project's success. Therefore, the abilities of the project managers, as well as the competency of the project staff, are important in every project. To build the necessary business and technical skills crucial for business, the project team must function as a unit and consist of internal ICT service project staff and consultants (Kowalczyk et al., 2022).

The external environment significantly impacts projects in developing nations (Jekale, 2004). The PESTEL (Political, Economic, Social, Technological, Environmental, and Legal) elements that may impact a project's many aspects may be included entirely or in part. Project success is significantly impacted by an unstable project environment, quick changes in markets, shifting funding sources, and regular adjustments to government regulations and the business climate (Kissi et al., 2019).

To combat corruption and inefficiency in the provision of services, the Kenyan government launched a program in 2002 to invest in ICT infrastructure with finance from outside sources (Mwangi, 2013). The nation has effectively implemented online government services to enhance its offerings and lessen corruption. Reducing waste of time and other resources was the goal of the E-government's shared communication system. Several governmental and private businesses have made it their mission to assist in achieving the Vision 2030 pillar of economic stability (Mwitia, 2017). The Kenyan government established the ICT Authority to oversee all ICT-related activities. Kenya is now

recognised worldwide as a regional and global ICT powerhouse because of the ICT Authority (Mann & Graham, 2018).

Projects In Controlled Environment 2 (PRINCE2) is the project management approach that the Central Bank of Kenya (CBK) and the rest of the banking industry in Kenya utilise (Kamau, 2013). In 2012, CBA, in collaboration with Safaricom, launched M-Shwari, the first mobile savings and loans product in the Kenyan market (Cook & McKay, 2015). Customers of M-Pesa can use M-Shwari, which enables users to borrow and save money using their mobile phones (Mugeni, 2019).

As part of managing several projects that started to rebuild the organisation and strengthen its position in the market, Housing Finance (HF) of Kenya introduced PRINCE2 in 2008 (Mwangi, 2013). Prior to HF implementing PRINCE2, the majority of projects lacked a defined beginning and conclusion, which made it difficult to justify the use of resources after leadership demanded that initiatives produce results (Mwangi, 2013). Kenya Power Company (KPC) is a public limited liability business that distributes, transmits, and retails electricity throughout Kenya. Kenya Power was the company's new name to provide better services. Although private investors own most of KPC, the Kenyan government and its institutions own the company. Kenya Power (transmission and distribution), KETRACO (transmission only), KenGen (generation only), and Rural Electrification Company (distribution for rural clients backed by the Government of Kenya) are only a few of the businesses that KPC works through (Kemei, 2010; Ogeya et al., 2021).

In the future, all these businesses will deliver electricity to final consumers, resulting in fierce competition in the energy industry. KPC depends on ICT technologies to meet its business goals. It has embraced the opportunities and challenges these technologies present to conduct business by creating products that meet the demands of the VUCA world and the constantly shifting needs of its customers (Ogeya et al., 2021).

To do this, efforts have been made to continuously develop, grow, and enhance ICT technologies, frequently accomplished through ICT initiatives supporting business strategies. KPC has made significant investments in databases, applications, and infrastructure. The ICT systems comprise an open, integrated suite of front-end application systems powered by back-end databases created by specialised fields and then connected by interfaces (Kemei, 2010). KPC uses project management in its ICT service initiatives.

The effectiveness of the project management methodology employed will be assessed because it implies criteria for cost, time,

quality, and stakeholder satisfaction (Maina & Gathenya, 2014). According to research conducted by Kebeya (2015) on project management and the effectiveness of Kenya Power's prepaid electricity metering, there were issues encountered throughout implementation even though Kenya Power routinely provided project performance and status. The study also found that when project management is effective in terms of project initiation, planning, implementation, monitoring and evaluation, and stakeholder involvement, Kenya Power has effective project performance. Two other stages of the KPC's Project Management Cycle were examined in a different study on applying project management to enhance performance indicators in a changing environment: Sometimes, the construction phase lasts shorter than the preceding tendering phase. Out of all the projects examined, 10% were finished late, 5% were finished early, and 85% were found to be incomplete and completed late.

According to Alghail et al. (2021) and Asiaei et al. (2021), there was a variance of 23% in the completion of projects to design standards, 67% in completion with revisions, and 10% with some missing elements. This study suggests creating a framework for using project management techniques to improve KPC's ICT service initiatives.

4 Methods and Materials

This study used a descriptive survey research design. The purpose of a descriptive study is to provide a picture of a situation, person, or event or show how things are related to each other and as they naturally occur (Blumberg et al., 2014). It is a time-efficient research method that engages the people at the centre of the research objective. A survey is the most flexible way to gather team members' insight about an organisation's way of managing projects and other aspects. Further, it establishes the range and distribution of social characteristics, such as education or training, occupation, and location. It discovers how these characteristics may be related to specific behaviour patterns or attitudes. This method helped to determine the factors that influence the performance of ICT service projects.

This study adopted 65 respondents from KPC's ICT service management sections, constituting a complete enumeration survey method. The 65 respondents came from the organisation's service desk, problem management, change management, incident management, asset management, service catalogue, project management, and financial management sections. The number of respondents was reached after communication with the ICT service manager, who gave the authority to the technical team members who were knowledgeable, experienced and available. The complete enumeration survey method is the total process of collecting,

compiling, evaluating, analysing, and publishing or otherwise disseminating demographic, economic, and social data at a specific time to all persons in an organisation or a well-delimited part of it (Baffour et al., 2013). For this study, the scope of the census was the company's identified ICT service project unit.

Primary data was obtained through structured questionnaires (Burkard et al., 2012). The data collected focused on the key inconsistencies of the existing practices in ICT service projects. A pilot study was done at the Cooperative Bank of Kenya because it has characteristics similar to Kenya Power Company's. The reliability of the questionnaire was established through the use of Macdonald's omega coefficient, which was found to be good and acceptable (ω > .70), according to Kontings et al. (2009). Table 1 summarises the findings of the questionnaire's internal consistency based on the various constructs.

Table 1. Internal Consistency of the Various Questionnaire Constructs

Constructs of the Study	Number of Items	McDonald's Omega	Status
Technological Issues	6	.758	Reliable
Leadership Issues	10	.800	Reliable
Environmental Issues	5	.677	Reliable
Other Issues	5	.573	Reliable

Table 1 established reliability for the various questionnaire constructs: technological issues (ω= .758), leadership issues (ω = .800), environmental issues (ω= .677), and other issues (ω= .573). It is evident from all these constructs that the questionnaire met the reliability test since most of the constructs were loaded above .70. This implied that the data collected through these questionnaires was reliable and could be used for further analysis according to the study's objective.

5 Results of the Study

The study's objective was to determine the impediments to the performance of ICT service projects in organisations. The respondents were issued with questions regarding technological issues, leadership issues, environmental issues, and other issues. Descriptive statistics methods of mean and standard deviation were used to allow the audience to understand behavioural patterns and characteristics of the variables investigated in this research. The respondents were required to provide their opinion on a five-point Likert scale of 5=Strongly Agree (SA), 4=Agree (A), 3=Not Sure (NS), 2=Disagree (D), 1=Strongly Disagree (SD). Table 2 summarises the results of the technological issues that influence the performance of ICT service projects in organisations.

Table 2. Technological Issues in ICT Service Projects

Technological Issues	N	Mean	Std. Deviation
Resistance to change	62	3.82	1.094
Insufficient change controls	62	3.65	1.042
Unclear guiding principles	62	3.39	1.246
Poor ICT facilities	62	3.32	1.238
Unstable resources	62	3.18	1.079
Awareness inadequacy	62	2.87	1.208
Overall Results	62	3.42	1.151

The results in Table 2 established that the majority of the respondents agreed that resistance to change (M=3.82, SD=1.094), insufficient change controls (M=3.65, SD=1.042), unclear guiding principles (M=3.39, SD=1.246), poor ICT facilities (M=3.32, SD=1.238) were the technological issues that influenced the performance of ICT service projects in organisations. The overall results confirmed that the majority (M=3.42, SD=1.151) of the respondents thought that technological issues influence the performance of ICT service projects in organisations. Table 3 summarises the results of the leadership issues that hinder the performance of ICT service projects in organisations.

Table 3: Leadership Issues in ICT Service Projects

Leadership Issues	N	Mean	Std. Deviation
Recruitment dynamics	62	3.81	1.084
Insufficient support from decision-makers	62	3.74	.957
Complex dependencies	62	3.68	1.068
Baseline assessment	62	3.66	1.023
Unclear decision making	62	3.55	1.141
Unrealistic capacity expectation	62	3.53	1.112
Poor project vision	62	3.53	1.155
Unsustainable focus	62	3.52	1.083
Improper stakeholder engagement	62	3.42	1.095
Prevailing culture	62	3.37	1.134
Overall Issues	62	3.58	1.085

The results in Table 3 established that the majority of the respondents agreed (M=3.81, SD=1.084) that recruitment dynamics, insufficient support from decision-makers (M=3.74, SD=.957), complex dependencies (M=3.68, SD=1.068), baseline assessment (M=3.66, SD=1.023), unclear decision making (M=3.55, SD=1.141), unrealistic capacity expectation (M=3.53, SD=1.112), poor project vision (M=3.53, SD=1.155), unsustainable focus (M=3.52, SD=1.083), improper stakeholder engagement (M=3.42, SD=1.095) were the leadership

issues that hamper the performance of ICT service projects in organisations. The overall results confirm that most (M=3.42, SD=1.151) respondents thought leadership issues influence ICT service project performance in organisations. Table 4 summarises the results of the environmental issues that dishearten the performance of ICT service projects in organisations.

Table 4: Environmental Issues in ICT Service Projects

Environmental Issues	N	Mean	Std. Deviation
Economic factors	62	3.94	1.022
Political factors	62	3.74	1.055
Social factors	62	3.61	1.164
Unexpected events	62	3.34	1.159
Legal factors	62	3.31	1.018
Overall Results	62	3.59	1.084

The results in Table 4 established that the majority of the respondents agreed (M=3.94, SD=1.022) that economic factors, political factors (M=3.74, SD=1.055), social factors (M=3.61, SD=1.164), unexpected events (M=3.34, SD=1.159), legal factors (M=3.31, SD=1.018) (M=3.94, SD=1.022) were the environmental issues that influenced the performance of ICT service projects in organisations. The results revealed that most respondents (M=3.59, SD=1.084) thought environmental issues influence ICT service project performance. Table 5 summarises the results of the environmental issues that dishearten the performance of ICT service projects in organisations.

Table 5. Other Issues in ICT Service Projects

Other Issues	N	Mean	Std. Deviation
Corruption	62	4.06	1.022
Inadequate funds	62	3.79	1.230
Political priorities	62	3.71	1.151
Management policies	62	3.56	1.096
Inappropriate contract conditions	62	3.29	1.151
Overall Results	62	3.68	1.130

The results in Table 5 showed that the majority of the respondents agreed that corruption (M = 4.06, SD = 1.022), inadequate funds (M = 3.79, SD = 1.230), political priorities (M = 3.71, SD = 1.151), management policies (M =3.56, SD = 1.096), inappropriate contract conditions (M =3.29, SD = 1.151) were the other issues that hamper the success of ICT service projects in organisations. The results established that most respondents (M =3.68, SD =1.130) thought environmental issues influence ICT service project performance.

The research also conducted a regression analysis to establish the significance level of the project impediments and the ICT service projects in organisations. The findings are summarised in Table 6.

Table 6: Regression Analysis of the Constraints of ICT Service Projects

				Std. Error	Change Statistics				
Model	R	R Square	Adjusted R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.544a	.296	.246	.61547	.296	5.899	4	56	.000

In Table 6, R is the correlation coefficient. It provides a moderate positive correlation (r=.544) between the project's impediments and the ICT service project performance. R-squared of .296 measures part of the performance of ICT service projects, which was explained by technological, leadership, environmental, and other impediments. It showed that approximately 29.6% of the variation in the performance of ICT service projects was attributed to the variation in technological, leadership, environmental, and other issues. The adjusted R-squared provides an idea of how the model may be generalised. It should be as close as possible to R-squared, if not the same. In this regard, the difference for the final model is slight, 5%. If the model were derived from the population rather than a sample, it would have accounted for approximately 5% less variance in the ICT service project performance.

This established that the overall model was statistically significant ($F = 5.899$; $p < .05$) since the p-value was way below the minimum threshold, which was set to .05. The research also carried out regression analysis to establish the level of significance of the impediments and the ICT service projects' performance in organisations. The findings are summarised in Table 7.

Table 7: Regression Analysis for the Constraints in ICT Service Projects

	Unstandardised Coefficients		Standardised Coefficients			95.0% Confidence Interval for B	
Model	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	5.401	.532		10.148	.000	4.335	6.467
Technological Issues	.355	.129	.391	2.750	.008	.096	.613
Leadership Issues	-.501	.153	-.462	-3.276	.002	-.807	-.195
Environmental Issues	-.269	.135	-.261	-1.995	.051	-.538	.001
Other Issues	-.084	.072	-.152	-1.164	.249	-.228	.060

Unstandardised coefficient values were used to construct the regression equation, as shown in Table 7. The Beta coefficients for the technological, leadership, environmental, and other issues were .355, .501, .269, and .084, respectively, and were statistically significant ($p < .05$). These coefficients made a unique contribution in explaining the performance of the ICT service projects. Table 7 confirmed the optimum regression equation illustrating the relationship between the various impediments and the ICT service project performance:

$$Y=5.401+0.355X1 -0.501X2 - 0.269X3 - 0.084X4$$

Where X1, X2, X3, and X4 are technological, leadership, environmental, and other issues in that order and Y is ICT service projects.

The regression from Table 7 shows a moderate positive correlation ($r = .544$) between the impediments and ICT service project performance. The model, which is 29.6% and statistically significant, accounted for the variation in technological, leadership, environmental, and other issues.

6 Discussion of the Findings

The study aimed to determine the impediments to the performance of ICT service projects in organisations. The questionnaire responses from the ICT service project team members thought that technological issues ($M = 3.42$, $SD = 1.151$), leadership issues ($M = 3.58$, $SD = 1.085$), environmental issues ($M = 3.59$, $SD = 1.084$) and other issues ($M = 3.68$, $SD = 1.130$) influence ICT service project success. The regression results revealed a moderate positive correlation ($r = .544$) between the impediments and ICT service project performance. This relationship was found to be statistically significant ($p < .05$).

The results of the current study are supported by the findings of Mwitia (2017), who says that the attitude of the project team members and other stakeholders who either implement or reject technology that has been transitioned into operational use in the organisation influences project performance. Further, the findings also resonate with the results of the study by Meredith and Zwikael (2019), who argued that project success lies in upper-level management support, strong communication, project purpose and goals, and stakeholder engagement. The results of the current study antagonise the findings of a study carried out by Schaubroeck et al. (2012), contending that multiple competencies were most effective and that giving feedback did not always correlate with effectiveness. The study findings correspond with those researchers who agreed and, therefore, show positive results.

The failure to take into account the unique environment of businesses and firms and to critically adopt and adapt the PM methodologies to the setting of developing

countries is primarily to blame for failing projects and their poor management in Kenya (Krishna & Venkatajah, 2017).

The performance of ICT service projects is greatly impacted by organisational culture, which influences employee behaviour and can either encourage or discourage certain behaviours needed to meet project goals at a given level (Alkhlaifat et al., 2019). An organisational culture that is unprepared and unfavourable to project start and successful completion is the primary cause of project failure or lower results. Organisational culture has a significant impact on the success of ICT service projects. Government political priorities, conflict, famine, and the prevalence of corruption all impact projects in poor nations (Damoah et al., 2018). Nigeria is used as an example, stating that changes in government policies resulting in inflation and currency depreciation caused the cost of building supplies to increase by 400% over two years (Eja & Ramegowda, 2020). Similarly, comprehensive capacity building in risk management is critical in improving project outcomes. Integrating risk incident monitoring into daily operations was recognised as a critical factor impacting overall project performance (Karugi, 2025). Therefore, the findings of this study confirm the theory of constraints, which states that impediments affect the performance of ICT service projects in organisations and, as such, critical constraints should be given priority in enhancing project performance.

7 Conclusion and Directions for Future Studies

The results confirmed that most of the respondents believed that technological, leadership, environmental and other issues influence the performance of ICT service projects in organisations. Regression analysis established a moderate positive correlation between the impediments and the performance of ICT service projects and further confirmed that the relationship was statistically significant ($p < .05$).

The findings of the current study confirmed the theory of constraints, which postulates that impediments affect the objectives or the goal of a project and that there is no one best type of methodology that suits all enterprises, that is, different types of structures, processes, and approaches are needed for different kinds of environments as well as internal situations, that even in the same organisation different approaches may be necessary to deal with different situations, that a large number of variables, including goals, attitudes, mindset, and sense of values of people, technology and existing conditions determine the structure, process, methodology and overall approach of an organisation (Kano & Verbeke, 2019). This study adopted a descriptive survey research design, and the researcher suggests that future scholars carry out a similar study by employing

a mixed methods research design to collect quantitative and qualitative data to complement each other's weaknesses.

The findings of the current study further resonate with the results of Wilson et al. (2024) in their study on enhancing retail operations by integrating Artificial Intelligence into the theory of constraints thinking process to solve shelf issue, who addressed the pervasive issue of shelf holes in the retail sector and found a negative impact on customer satisfaction, including the inventory management deficiencies, supply chain coordination issues, and inefficient restocking processes and to address these challenges; an innovative solution was proposed and integrated in an ICT thinking approach consequently providing synergy to TOC.

8 Implications of the Study

The findings of this study shall enhance ICT service projects' policies and enlighten the leadership of organisations and other stakeholders on the various impediments likely to hinder the success of ICT service projects when making informed decisions on the improvements of ICT service projects' performance. The researcher recommends that further study be carried out to enrich the methodology for this study through similar research by using a mixed methods research design. Moreover, these findings shall augment the quality of ICT service projects in organisations. Finally, the findings of this study shall contribute to the realisation of Kenya Vision 2030 ICT framework as well as Sustainable Development Goal number nine (9), which focuses on industry, innovation, and infrastructure.

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