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Technology and the Effectiveness of Donor-Funded Projects in Kajiado County, Kenya

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Abstract

The centrality of technology in effective management of projects started attracting attention during the onset of the 21st century. The usability of technology is evident in all businesses including profit and non-profit making enterprises. Donor-funded projects are indispensable in the development process of any economy; these projects have a wide source of funds which gives them the potential to be completed and sustained to achieve the set objectives. Donors have invested heavily in projects in Kajiado County, and in spite of the many projects in record, no visible remarkable economic growth has been seen. The main objective of the study is to find out how technology influences the effectiveness of donor funded projects in Kajiado County. A descriptive survey design was utilized in the study and a sample of 100 participants were selected through simple and stratified random sampling techniques 20 of whom were selected from each sub-county. A semi-structured questionnaire was constructed using Likert scale to collect data from the study respondents. Findings from the study revealed technology has a significant influence on the effectiveness of donor funded projects ($B=0.313$; $p=0.00$, $p<0.05$). Using the findings from the study, it was recommended that people responsible for implementing donor-funded projects adopt the latest technologies if they want enhance the effectiveness of projects funded by donors.

Keywords: *Technology, donor-funded projects, donors, project management.*

1.0 Introduction

1.1 Research Background

The core aim of establishing donor-funded projects is to foster positive impact on growth across the world with a preferential focus on developing countries (Gwadoya, 2012). Developing nations usually suffer from a sense of acute shortage of funds even when hit by disasters such as drought, floods, terrorism, poverty, hunger, and earthquakes. Kajiado County is one of the counties in Kenya that have been benefiting from donor-funded projects. The county is classified as an Arid and Semi-Arid Land (ASALS). Since time immemorial, government and other donor agencies have invested heavily in poverty eradication projects in the county but its influence in improving the lives of the inhabitants of the area is minimal as evident in their daily lives (Ika, Diallo & Thuillier, 2010). Most of the managers of the already initiated projects are physical managers with the technical managers being based in the City and thus they receive instruction which then they implement, this has portrayed disconnect between the two level of managers.

Kamau and Mohamed (2015) noted that across the world, various studies have been conducted to establish the vital components that contribute to effectiveness of donor-funded projects. Different organizations have started mobilizing their efforts to ensure started projects are more effective in achieving the initial goals. This has witnessed organizational paradigm shift of attention from processes to outcomes of any initiated project (Nyamongo, 2017). Effectiveness of project can be measured in terms of customer satisfaction, quality achievement, project sustainability, completion within specified timeframe, completion within achievable cost/budget and attainment of organizational specified goals and objectives (Gibson, 2013). As stated by Raheem, Olateju and Hammed (2012), customer's satisfaction is a significant aspect when measuring project effectiveness. A project is said to be effective if its final analysis lead to customer's satisfaction. Completion of the projects should be considered when assessing the effectiveness of projects. Since projects are initiated with set goals to resolve a problem in a particular area, it should accomplish this task in a specific time frame determined by its short term and long term goals.

Nyamongo (2017) stated that for any project to be effective functioning and good managerial capabilities are required. Management of donor funded projects use various elements like M&E, planning, implementation and technology to ensure initiated projects are successful. However, with the advancement occurring in technology today, Osazee-Odia (2016) emphasizes that using the tools of technology have the potential to significantly influence the effectiveness of project management. Management may use various electrical devices to communicate and connect different units as well as keeping project data intact and secure.

Technology is measured through the use of information systems and data systems for communication and record keeping that adopted by organizations (Gibson, 2013). Use of technology may be applied by project management to compliment and make the management team more effective, which in turn leads to project success. Technology may be used to keep in touch as well as communicating with workers, stakeholders and important players concerning the project. Technology also may be used to securely store important data as well as easy accessibility of same data of the project. Project management may use technology for easy assessment of the

project progress. As stated by Georgieva and Allan (2008), a good management team consists of good representation of all stakeholders. Therefore, technology may be used to connect different teams in order to strength itself thus improving project success.

1.2 Problem Statement

Use of technology has been identified to play a great role in project success (Irefin, 2013; Kamau & Mohamed, 2015). However, the uptake of technology in managing donor-funded projects in Kajiado County has been slow. Even in projects where projects technology is used have shown slow growth across time and place (Barasa, 2018). Previous studies in the context of project management (Kitivi, 2014; Barasa, 2014; Kamau & Mohamed, 2015) have connected various elements of management capabilities such as technology with effectiveness of project management, but were carried out in different contexts that feature dissimilarity with Kajiado County. These contextual and empirical gaps forms the foundation for this study that seeks to establish the relationship between technology and effectiveness and effectiveness of donor-funded projects in Kajiado County.

1.3 Objective of the Study

To establish the effect of technology on the effectiveness of donor funded projects in Kajiado County

1.4 Justification

This research paper will be beneficial to the management of projects funded by donors because its findings may help them to grasp the relationship between management capabilities and project effectiveness. This helps in strengthening the components like strategic planning, implementations, monitoring and evaluation and technology to enhance project effectiveness. The donors of such projects may also benefit from the findings and recommendations of this study and can help set up projects with full consideration of these components. Finally, the findings of this study may provide deep understanding on how management capabilities affect project effectiveness and therefore other scholars may utilize it whenever they want to obtain empirical inform to use in their research as the foundation of literature. Furthermore, the suggestions for further research indicated in this paper, may be used by other researchers to understand the contribution made by management capabilities on donor funded project effectiveness.

2.0 Literature Review

2.1 Theoretical Review

2.1.1 Institutional Theory

The hypothesis under which the institutional theory is grounded is that a continuum of organization existence runs from organizations dominated by technical criteria such as companies dealing with manufacturing to those that the institutional criteria dominates such as public administrations, private non-profits and public institutions. Conformity to external institutional norms, societal, cultural and customer expectations are the most relevant components for this type of institutions. When organizations feature a strong sense of conformity to the institutional norms of the external

environment, there are high chances of increasing their effectiveness and stability while simultaneously enhancing the extent to which they conform to the institutional norms of the external environment. The focus of institutional norms is on appropriate domains of principles such as monitoring and evaluation, planning, organizing and operation criteria (Jolly, Isa, Othman & Ahmdon, 2016).

Beliefs and Values which are outside the organization play a vital role in determining organizational norms. "Institutional" organizations tend to exhibit conformance to these rules and requirements with the aim of increasing their levels of legitimacy; what this means is that they are convinced to reason on the basis of the institutional theory if they want to enhance the project effectiveness. The theory is not adopted as technical efficiency oriented approach for increasing the productivity of donor funded project services, it provides the basis of symbolic values that are geared towards to meeting important expectations of external stakeholders and customers. Some proponents of institutionalism would also back the notion that project effectiveness with its seeming rationality can also be seen as a step towards mythologizing donor funded projects as rational economic organizations. The Institutional Theory will be used to evaluate whether various components of technology that could affect the effectiveness of projects funded by donors in Kajiado County.

2.1.2 The Vroom Expectancy Motivation Theory

The Vroom Expectancy Motivation theory is a process theory developed by Victor Vroom (Parijat & Bagga, 2014). Vroom stated that there exists a comprehensive relationship between the behaviour of employee and achievement of organizational goals. Actually, he indicated that achievements of organizational goals depend on employees' skills, experience, knowledge and abilities resulting to satisfaction of recipients. Accordingly, the theory suggests there is a way through which individuals can be motivated if they believe that efforts correlate positively to outcome and that good performance will give desirable outcome regardless of them having different sets of goals. Thus, this assures that an important need they have will be satisfied. To satisfy the need a strong desire is needed to make any effort worthwhile (Parijat & Bagga, 2014).

It explains that effectiveness of employees depends on the perceived association between performance and outcomes and that individuals change their behaviour based on the estimation of the expected outcomes. The theory provides that a person's motivation comes from the belief that they will achieve what they desire in form of a reward. Thus, living up to the requirements of the theory helps to create a positive potential among employees by motivating them and making them feel important in the overall running of the organisation. There are three components that make up this theory; these include: existence of a positive correlation between an individual's efforts and performance, a desirable reward providing the impetus for favorable performance results, and that the reward having the potential to satisfy an important need (Parijat & Bagga, 2014).

The expectancy theory is thus elaborated in three major components, which include expectancy, instrumentality and valence. According to Parijat and Bagga (2014), expectancy is the belief that increased efforts will produce better performance. The performance is possible when the correct resources are made available, right skill acquired and support needed to do a job is in place.

Instrumentality on the other hand is the thought that if a person (employee) performs well, then a valued outcome will definitely be satisfactory. Instrumentality is helped by understanding the relationship between performances together with the outcomes. This allows decision makers in selecting the persons to be rewarded or the area the project will be conducted. Valence, on the other hand, means value and is used to denote the beliefs that people hold about outcome and desirability. It is worth noting that specific outcomes aimed at increasing satisfaction of initiated projects are associated with different degrees of value. The core meaning of valence is the importance attached to an outcome that an individual or a group of people expects to achieve (Redmon, 2016).

2.2 Empirical Review

In recent, decades we have witnessed a great advancement in technology across the world. Different institutions use technology to increase their effectiveness and efficiency in pursuing their both long and short-term goals (Bhoola, 2015). In a study carried out in India on Bhoola (2015) on impact of project success factors in management software projects in India among 302 IT project managers. It was found that, ease and transparency of communication enhances management and other stakeholders' efficiency thus making projects more effective. Effective communication also increases collaboration among different team members and periodic auditing of both budget and progress reports vital for effective project. Moreover, project success may be boosted by application of new and advanced technology. Good communication encourages appropriate interactions, flexible working hours, and involvement of all stakeholders, clear definition of roles, sufficient resources and professional working environment (Bhoola, 2015).

Another significant element for project success revealed in the findings is documentation and secured storage of projects undertakings. Documentation and storage of projects document, which enables the project management to maintain its records, can be enhanced by application of technology. Good documentations enhance ease tracking of project progress towards its goals. Good communication was identified as a major element for overall project success. The study was conducted among software management in India which is a different population from one pursued by current study, that is, projects funded by donors in Kajiado County (Bhoola, 2015). This means that the need for this current study cannot be understated because it focuses on technology influence on projects funded by donors in Kajiado County.

In a study conducted by Munizu (2014) to investigate the impact of information technology (IT) on competitive advantage for companies of food and beverage in Indonesia. The study used survey research design to collect data from managers of both medium and big companies. The study targeted 126 companies and 100 of them completed their questionnaires and returned for analysis. The findings of the study revealed that information technology comprising of IT for communication, administration and production has high significant on competitive advantage. Additionally, competitive advantage for companies is highly influenced by IT. This study used different population of companies dealing with food and beverage.

In Africa, studies such as Osazee-Odia (2016) have been conducted to establish the effect of IT in project effectiveness. Osazee-Odia (2016) conducted a study on utilization of mobile media among

32 university students in Nigeria using focus group discussion. The study findings revealed that technology especially mobile media is highly associated with effectiveness of learning of university students. The study also indicated high significance of internet resources in education sector particularly among university students. However, this study used different population that is university students in Nigeria. This current study was conducted to bridge this identified gap by conducting a study on projects funded by donors in Kajiado County, Kenya.

In a study by Kithinji (2017) conducted in Kenya on factors influencing completion of government road infrastructure projects using Meru County as a case study. The study targeted construction project contractors and managers, and used survey design with a sample size of 80 participants. The findings reported that project technology innovation and finance plays an important part in project completion. The further studies recommended to be carried out on different projects in order to establish different challenges facing such projects. The current study finds this study informative though was conducted among construction project contractors and managers in Meru County. The current study filled this gap by using both top project managers and locals in Kajiado County.

Gwadoya (2012) conducted a study on factors influencing effective implementation of monitoring and evaluation practices in donor funded projects in Kenya in Turkana district among 209 staffs working in 7 donor funded projects. A sample size of 63 participants comprising of project administrators, managers, finance staffs, ICT staffs and other staffs were selected to represent the whole population. The findings of this study revealed that technology adoption, staff competency, donor policies and resource adequacy is a critical element that influence the extent to which projects funded by donors are effectively implemented. The study recommended use of relevant, advanced, affordable and acceptable technology in donor funded projects activities such as documenting, storing as well as sharing the same information to various stakeholders (Gwadoya, 2012).

The study sought to investigate factors that affect effective implementation of monitoring and evaluation practices in donor funded projects instead of influence of technology and effectiveness of donor funded projects. Additionally, the context in which the study was conducted exhibits widespread dissimilarity from the current study; the region was Turkana, which has different challenges and situations with Kajiado County. Even though the study recommended for use of affordable, relevant and acceptable technology for effective donor funded projects, did not exhaustively explore on technology role on project effectiveness (Gwadoya, 2012). It is in this light the current study is undertaken in order to fill such gaps.

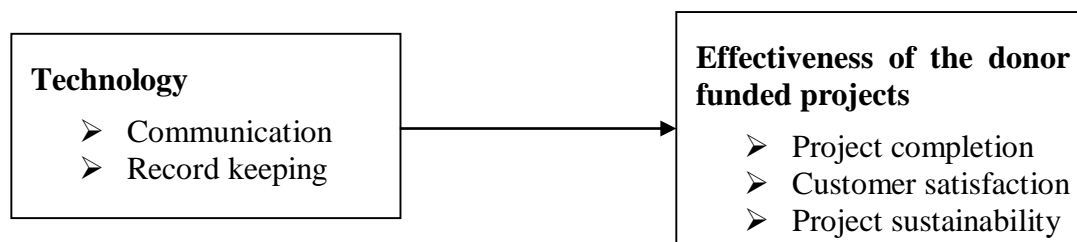


Figure 1: Conceptual framework

3.0 Methodology

The study used a descriptive research design, which facilitated the process of gathering data, presenting and summarizing the data as well as result interpretation with the aim of giving clarification (Creswell, 2013). The target population for this study was the top and middle levels managers overseeing Kajiado County's donor funded projects. The total population of managers were 500 in the five sub counties in Kajiado County as indicated by the Kajiado County NGO report. In selecting the sample, the 10% - 30% rule was applied to draw sample size of the managers working in those projects as Mugenda and Mugenda (1999), indicates where 20% of 500 will be 100 managers. Primary data was gathered from respondents using a questionnaire. The questionnaire was designed using Likert scale and comprised of different items derived from research objectives. The reason for selecting questionnaire for the collection of data was to get reliable and extensive data in less time. The semi-structured questionnaire used to collect intended information from the interviewees were constructed using simple language.

Two research assistants were involved to help in the collection of data. The research assistants were thoroughly instructed and directed by the researcher on the aim of this study. The researcher met with donor funded projects administration to seek permit of meeting managers. After which the researcher met the managers and agreed on the convenient time for the interview the participants were conducted and they gave consent for the study. The researcher administered the questionnaire on an individual basis.

To ensure content authenticity, the questionnaires were exposed to far reaching examination by two pros just as the manager. They were mentioned to evaluate the announcements in the instrument for appropriateness and whether they were clear, huge and stacked of offense. Reliability of the questionnaire was determined using Cronbach's Alpha, which requires that a valid instrument of data collection should have an alpha value of at least 0.7.

Ethical issues are linked with the right standards that a researcher is required to observe in all the stages of research plan. The researcher sought permission to undertake the study from the Kenyatta University Ethical Review Committee, the National Commission for Science Technology and Innovation (NACOSTI) and the Kajiado County. Other aspects of ethical concerns taken into consideration during this study include full disclosure, confidentiality and safety of the data collected.

4.0 Findings

4.1 Demographic Characteristics

Majority of the respondents were males (67%) aged 41-50 years and having bachelor's level of education (78%).

4.2 Descriptive analysis

The study examined how modern technology affects the operations of projects funded by donors and its overall effect on the success of these projects. The findings under the section as well are given on a Likert scale scores based on the responses given by the respondents Based on these scores, means and standard deviation statistical measures were applied in the analysis of the results. The results are as presented in Table 1 as follows.

Table 1: Technological influence on Donor Funded Projects

Statement on technology	Mean	Std. Dev
we use communication devices to run our operations	4.3	.0952
The Institution used internet to connect to various stakeholders	3.6	.9270
We use advanced systems to securely keep our records	2.3	1.6654
Our institution lacks backup system for record keeping	2.7	1.1107

According to Table 1, the respondents greatly agreed indicating that the organizations taking the operations of donor funded projects employed the use of communication devices to run the operations. This was shown by a mean of 4.3, which indicated that there was a great extent of agreement from the respondents. The standard deviation was 0.0952, which showed a less variance in the results given from different projects. Thus, with the findings, there was effective communication using modern communication devices a fact that contributed positively to the operations and the success of the projects.

Internet was found to have contributed significantly in the communication process in the organizations undertaking the donor funded projects. With internet, the institutions were able to connect to various stakeholders involved in the projects. This was reported by the respondents who agreed with a mean score of 3.6 for a moderate extent of agreement. The standard deviation was 0.9270, which was below 1 indicating that there were no major variances in the responses given.

The findings further show that the respondents neither agreed nor disagreed that the organizations in question had adopted the use of advanced systems to securely keep their operational records. This was as shown by a mean score of 2.3, which is in the interval for neither agree nor disagree. This however had a standard deviation coefficient of 1.6654, which is greater than 1 showing there was much variance in the results obtained from different projects. This clearly indicates that there were use of advanced systems in some projects to secure records whereas other projects had not put these systems in their operations.

Similarly, the respondents neither agreed nor disagreed that the institution in charge of the donor funded project lacks backup system for record keeping. This is indicated by the mean score of 2.7

obtained, which showed a neutral state, and a standard deviation of 1.1107 showing presence of significant variance in the results.

4.3 Regression analysis

Regression analysis results are shown in table 2.

Table 2: Regression Model Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.964	.321		3.000	.003
Technology	.336	.056	.408	5.948	.000

a. Dependent Variable: effectiveness of donor funded projects

Technology was found to be significantly related to the effectiveness of donor funded projects evidenced by the p-value of 0.00 ($p < 0.05$). The two variables are also positively, but weakly related as indicated by the beta value of 0.336. This means that a unit change in technology will lead to a 0.336 change in effectiveness of donor-funded projects in Kajiado County. A predictive equation that can be formed from this relationship is:

$$Y = 0.964 + 0.336X + e \dots\dots\dots(i)$$

Change in any of the variables can be fitted into the regression equation above to identify effect on change in the other variables.

5.0 Conclusions

This study was undertaken to establish how technology influence the effectiveness of donor-funded projects in Kajiado County in Kenya. On the effect of technology on the effectiveness of the donor funded projects in Kajiado County, the study findings illustrated that, the organizations taking the operations of donor funded projects employed the use of communication devices to run the operations. Thus, findings confirmed that there was effective communication using modern communication devices a fact that contributed positively to the operations and the success of the projects. It was established that the use of internet in communication had contributed significantly to the communication process in the organizations undertaking the projects funded by donors. Using internet, the institutions were able to connect to various stakeholders involved in the projects. Further, findings showed that the organizations had adopted the use of advanced systems to keep securely their operational records. However, there was no evidence of the use of technology by the institution through creating a backup system for record keeping.

Using modern technology, communication becomes effective in any organization. This is facilitated by the ability of technology to allow for online and offline communication and thus the operational part of the organization is eased. Thus, technological application in donor funded projects contribute directly to the project’s success. The use of internet in communication has been found to contribute significantly the communication process when handling matters related to

projects funded by donors. With internet, donor funded organizations are able to connect to various stakeholders involved in the project.

6.0 Recommendations

The use and application of technology in communication and in the implementation significantly contributes to the success of the donor funded projects. Thus, all the donors should evaluate the ability of donor funded project implementers to utilize technology in their operations as well as the available technological resources at hand for use. The operations within these projects should as well be based on the modern world standards, which can be achieved with technology as a means of communication for consultancy as well as through studying different methods of operations through the internet.

7.0 Suggestions for Future Research

Future studies may consider replicating this topic to larger samples. Additionally, there is need for studies to focus more on each particular aspects of management capabilities and their effectiveness in donor funded projects can be undertaken. Moreover, there is need for further studies to focus more on both the project managers and the project beneficiaries who are the locals and ascertain the impact of the management capabilities on the satisfaction levels.

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