



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

CODEN: IJRSFP (USA)

*International Journal of Recent Scientific Research*  
Vol. 9, Issue, 8(E), pp. 28638-28645, August, 2018

**International Journal of  
Recent Scientific  
Research**

DOI: 10.24327/IJRSR

## Research Article

# FACTORS INFLUENCING COMPLETION OF BUILDING CONSTRUCTION PROJECTS IN KAJIADO COUNTY, KENYA

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DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0908.2497>

### ARTICLE INFO

#### Article History:

Received 22<sup>nd</sup> May, 2018  
Received in revised form 5<sup>th</sup>  
June, 2018  
Accepted 16<sup>th</sup> July, 2018  
Published online 28<sup>th</sup> August, 2018

#### Key Words:

Project Completion, Building  
Construction, Project Management,  
Delays in Projects

### ABSTRACT

The subject of completion of project is a universal concern that affects all parties to a construction project. Various studies show that construction industry accounts for an estimated 10% of the gross national product (GNP) of most developed economies, with reports indicating that the resources utilized in this industry add up to 50% of the world resources. It is thus in the interest of the project management as an emerging profession to address all the factors that affect completion of construction project. This is because contractors usually have limited ability to claim additional money which is limited to the circumstances where the project company has delayed the contractor or has ordered the variation of the works. Reports indicate that more than 50% of all public building construction projects started by the county government in the last two years have gone beyond the stipulated completion time. Although the government has been making efforts to address the issue by issuing directives and legislations aimed at improving the situation, indications are quite clear that case of delays, cost overruns and below quality deliveries are still rampant. This study, therefore, sought to establish the factors influencing completion of building construction projects in Kajiado County. The study adopted a pragmatic research paradigm for a mixed research method in a concurrent research design. The study targeted all the project management personnel in Kajiado County, with the sample size being calculated based on the formula by Yamane (1967) through both probability and non-probability sampling techniques. The sample size was 212 respondents comprising of chief officers, technical staff, contractors, and sub-county project managers. Structured questionnaires were administered to collect quantitative data from selected county and subcounty project managers as well as the National Construction Authority personnel. Regression models were used to analyse quantitative data. The study found that fund allocation, project management factors, as well as human resource factors had a positive correlation with the completion of building construction projects in Kajiado County. Project identification process on the other hand displayed negative correlation with the completion of building construction projects in Kajiado County. A study concluded that compliance regulations aid fund allocation, project identification, human resource, and project management in ensuring successful completion of building construction projects in Kajiado County. The study recommended that all project managers in Kajiado County comply with the construction standards and regulations in place before embarking on project construction, ensure project funds are set aside for the same, and procure all the required materials before start of the project.

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## INTRODUCTION

Construction industry plays a major role in development and achievement in development and achievement of the societal goals. As Navon (2005) observed, the construction industry accounts for an estimated 10% of the gross national product (GNP) of most developed economies, with reports indicating that the resources utilized in this industry add up to 50% of the world resources. According to the Kenya Economic Survey reports, the construction industry is one of the major economic pillars, contributing a significant portion between 5% and 12% to the economic growth and development, as well as offering 10% of total employment opportunities in the country (Njuguna, 2008). This clearly underlines the significance of the Construction Project Management (CPM) industry, even

though the provision of infrastructure consumes about 10% of the National Budget as indicated in various reports (Kenya National Bureau of Statistics, 2015).

Delays on construction projects are a universal phenomenon. Therefore, it is obvious that most of the projects are delayed (Brennan, 2002). Delay is generally acknowledged as the most common, costly, complex and risky problem encountered in construction projects. The construction industry is complex in its nature, owing to the large number of stakeholders including contractors, consultants, shareholders, regulators, land owners, and tenants (Yazici, 2009). The overriding importance of time for both the owner and the contractor, and the complexity of the industry is the source of frequent disputes and claims leading to lawsuits (Ahmad *et al*, 2003). The completion of

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projects in a timely manner is often a critical factor and measure of project success. Generally, the basic objective of building is to construct with the aim of achieving the required quality within the stipulated time and the cost as well (Yazici, 2009). The universal construction industry is inundated with late delivery in project. The subject of completion of project is a universal concern that affects all parties to a construction project. It is thus in the interest of the project management as an emerging profession to address all the factors that affect completion of construction project. This is because contractors usually have limited ability to claim additional money which is limited to the circumstances where the project company has delayed the contractor or has ordered the variation of the works.

In the recent past, the Kenyan government has invested heavily in infrastructural projects aimed at making Kenya industrialized by 2030. In line with the Vision 2030 blueprint, the government has seen the construction of Thika Superhighway and the Standard Gauge Railway (SGR) in a bid to improve on the transport network system in the country (KNBS, 2016). Various counties have also initiated their own projects to improve the livelihoods of Kenya. Kajiado County is not an exception, as numerous constructions projects have been commissioned by the county government since 2013. For instance, the Kajiado County government has undertaken various construction projects, key among them the Kitengela Bus Park, which was completed in 2017, and the Ngong stadium, still work in progress. The government has also in its 2013-2017 tenure completed construction of over 300 ECD classes, as well as 3 secondary schools, with some yet to be completed (Kajiado County, 2017). Kajiado West Sub-county headquarters marks another construction project undertaken by the county government. However, majority of these projects face problems of delays, cost over-runs and failure to achieve the intended quality requirements. This for instance is the case with the Ngong Stadium, whose first phase meant for completion in 2015 is yet to be done. Indeed service delivery in the Department of Public Works and the construction industry has remained wanting with numerous cases of delayed or, in extreme cases, stalled projects spread throughout the county. Reports indicate that more than 50% of all public building construction projects started by the county government in the last two years have gone beyond the stipulated completion time (Department of public works – Kajiado County, 2014). Although the government has been making efforts to address the issue by issuing directives and legislations aimed at improving the situation, indications are quite clear that case of delays, cost overruns and below quality deliveries are still rampant.

Although studies have been done on the factors influencing completion of construction projects in Kenya, not much has been done on projects in rural and sub-urban areas. More so, devolution of governance to county levels has disintegrated units of analysis to better understand problems facing initiation and completion of construction projects. Even though devolution of governance system has seen improvement in sanctioning and completion of construction projects, delay remains a key factor inhibiting successful completion of these projects. It is on this backdrop that the study seeks to establish

factors affecting completion of building projects initiated by the county government in Kajiado County.

## **LITERATURE REVIEW**

There are major empirical findings on the delays and completion of building construction projects in Kenya, Africa, and the rest of the world. There is available evidence from literature on how to use projects for the management of organizational process to prepare the organization for its competitive future and survival (Cleland and Ireland, 2007). Today, project management techniques are used as the principal means by which operational and strategic issues are managed in both for-profit and not-for-profit organizations. There is available evidence from literature on how to use projects for the management of organizational process to prepare the organization for its competitive future and survival (Cleland and Ireland, 2007). Today, project management techniques are used as the principal means by which operational and strategic issues are managed in both for-profit and not-for-profit organizations.

The findings of most studies on completion of building construction projects agree that money, resources, efforts and leadership should always be available throughout the project's life. Availability of funds/resources has also been ranked highest in recent researches (Belassi andTukel, 1996). Efforts are needed to ensure the existence of general agreements and collective genius of professionals in concerned organizations as well as proper project control (White and Fortune, 2002). The study proposed to fill this gap by the team should also ensure the county budgetary allocation team sets aside funds for the project before embarking on any planning process for the same. This calls for proper fiscal budgeting and planning process that would ensure sufficient funds are set aside for the project and availed on time to facilitate procurement of construction materials to minimize delays.

Various authors agree that project identification process during project planning influences the completion of construction projects (Marsden, David and Oakley 2008). In many building construction projects in the past, where timelines and resources were minimal, feasibility studies were hurriedly done or completely ignored, it was difficult for one to know the challenges they should expect in the course of the construction. Various studies agree that lack of thorough project identification by the project management team before embarking on the construction process always lead to conflicts and misunderstanding between the project management team and the local community where the project is being constructed (Olatunji, 2010). In their study on delays in project completion, Wambugu, (2013) observed that inadequate feasibility study and planning is a recipe for poor workmanship. This also leads to project cost overrun and may result to project abandonment. It therefore goes without saying that inadequate project identification process is one of the key factors identified as causing delays in timely project completions (Jagboro and Aibinu, 2002).

The use of project management techniques is very important in the construction industry, because the coordination and use of the many types of labor, skills, materials, and equipments which are used in construction require daily application of proper project management techniques (Phua and Rowlinson,

2004). Sidwell (1982) advocates for the degree of project management actions to be reflected in the range and type of control mechanisms set up for the particular problem. At one end of the range will be a very low control situation, where neither professional design team, drawings, specifications, documentation nor standard form of contract exist. On the other hand a high control situation may exist if detailed documentation is administered through a system of regular meeting, monitoring and inspections. Rowlinson (1988) concluded that high level of administrative ability in the project team leads to reduced time overruns, which in turn leads to increased satisfaction.

The project manager is another key stakeholder in a construction project and his competence is a critical factor affecting project planning, scheduling, and communication (Belassi and Tukul 1996). Variables under this factor consist of the skills and characteristics of project managers, their commitment, competence, experience, and authority (Chua *et al.* 1999). A construction project requires team spirit, therefore team building is important among different parties. Team efforts by all parties to a contract are crucial ingredient for the successful completion of a project (Hassan, 1995). Similarly, one of the four CSFs in Sanvido *et al.* (1992) were a series of contracts that allows and encourages the various specialists to behave as a team without conflicts of interest and differing goals. These contracts must allocate risk and reward in the correct proportions. A serious challenge to construction industries in developing countries is their inability to adopt or adapt established best practices already working in other countries (Ngowi, 2002). Additionally, although public-sector clients in developing countries and some donor agencies support construction technology transfer, it faces several problems. It is therefore, obvious that the right technology needs the right people to select, manage and utilize it. A recent study by Long (2003) conducted in Vietnam found that problems responsible by designers/consultants and contractors had very high frequency and influence on large construction projects. It can be concluded that these participants play vital roles in running projects and directing them to success or failure. Commitment to project and top management support are the other issues related to the commitment component grouping. It has been recognized as one of the most critical factors for the successful completion of projects in numerous studies (White and Fortune, 2002)

**METHODOLOGY**

This study adopted a pragmatic research paradigm for a mixed research method in a concurrent research design. The study targeted all the project management personnel in Kajiado County, with the sample size being calculated based on the formula by Yamane (1967) through both probability and non-probability sampling techniques. The sample size was 212 respondents comprising of chief officers, technical staff, contractors, and sub-county project managers. Structured questionnaires were administered to collect quantitative data from selected county and subcounty project managers as well as the National Construction Authority personnel. Regression models were used to analyze quantitative data.

**RESULTS AND DISCUSSIONS**

**Demographic Characteristics of Respondents**

This section presents the respondents in terms of their demographic characteristics. This was assessed in terms of gender, age, level of education and occupation. This was aimed at investigating how the project participants were distributed along their demographic characteristics and how this was in line with the NCA policy guidelines.

**Age of the Respondents**

The respondents were also requested to indicate their respective ages. The results are as shown in Table 1.

**Table 1**Age of the Respondent

	Frequency	Percent
Below 30 years	4	4.3
30- 50 years	31	65.6
Above 50 years	15	30.1
Total	<b>50</b>	<b>100</b>

According to the study findings, 65.6% of the respondents were aged between 30-50 years, with 30.1% being aged above 50 years, with only a paltry 4.31% aged below 30 years. This clearly shows that majority of respondents in project management positions within the Kajiado County are mature enough to have amassed sufficient experience to enable them provide good leadership in their various capacities.

With more than 95% of respondents being 30 years and older, it is imperative to conclude that the response had enough expertise to oversee construction projects initiated by the county, as well as ensuring compliance policies are fully adhered, to ensure the organizations meet their set targets and objectives. The study therefore concludes that most of the respondents were mature enough to understand the subject of the study and give reliable and relevant information concerning the subject matter.

**Gender of the Respondent**

The respondents were also asked to indicate their gender. The results are as shown in the Table 2

**Table 2** Gender of the Respondents

	Frequency	Percent
Male	98	61
Female	62	39
Total	160	100

As per the results, 61% of the respondents were male while 39% were female. This shows that all the study was gender sensitive and did not show bias to any particular gender when selecting respondents for the survey.

**Education Level**

The respondents were also requested to indicate their education level. The results were as shown in Table 3:

**Table 3** Education level

	Frequency	Percent
Diploma	58	36
Certificate	35	22
PhD	5	3
Master Degree	18	11
Bachelor's degree	45	28
Total	160	100

From the findings in Table 4.3, it is observed that more than 42% of the respondents have university degree and above, a clear indicator of high literacy levels in the area. This shows that majority of the respondents are well learned enough to comprehend the subject matter of the study. The results show that 28% of the respondents had a Bachelor Degree, 11% had a Master’s Degree, while further 3% had a PhD. A majority of 58% had either a diploma or a certificate though majority reported to being members of professional bodies like ICPAK, ICPSK, Kenya Institute of Human Resource Management, Kenya Institute of Management among others. These results show that the respondents were well informed on the subject of study and thus appropriate for the study and offered the answers to the questionnaires as appropriate as possible. This also implies that most of the project management personnel in Kajiado County are literate. It therefore goes without saying that Kajiado County attracts very highly educated individuals occupy project managerial positions, with other assistant personnel attracting candidates with basic academic knowledge, making it easier to train them in their different areas of specialization. It is presumed that persons with such qualifications are intellectually able to handle the complex processes that are building construction stages, as well as ensuring the structure under construction is compliant with the regulatory policies put in place.

**Factors influencing Completion of Building Construction Projects**

This section presents the findings on factors influencing completion of building construction projects in Kajiado County. These include fund allocation, project identification process, project management factors, as well as human resource management factors.

**Fund Allocation**

This was first factor influencing completion of building construction projects as established by the findings in response to the first objective of the study. The study sought to know from the respondents if the funds allocated to each project are adequate to ensure the project is completed within the stipulated without any financial hitches. The study also wanted to know if the funds are always released on time to ensure the required materials are procured on time. The responses were as shown in table 4.

**Table 4** Rating adequacy of disbursed funds

Response	Frequency	Percentage
Strongly Disagree	48	30
Disagree	34	21.3
Not sure	28	17.5
Agree	15	9.3
Strongly Agree	35	21.9
Total	160	100

The findings in Table 4 indicate majority of the respondents strongly disagree with the assertion that their departments have fully automated their operations. More than 50 % of the respondents were of the contrary opinion that funds allocated are adequate to ensure initiated projects by the Kajiado County government are built to completion without any financial hitches. A relative percentage of 17.5% on the other hand expressed their reservation on the adequacy of funds allocated

for completion of building construction projects within the entire Kajiado County, while 38% of the respondents were satisfied with the adequacy of funds allocated for completion of the projects.

On the issue of timeliness of allocation of funds; 38% of the respondents strongly disagreed that allocated funds are disbursed to their respective projects on time to ensure required materials are procured within time as shown on Table 5.

**Table 5** Timeliness of disbursement of allocated funds

Response	Frequency	Percentage
Strongly Disagree	60	37.5
Disagree	26	16.3
Not sure	19	11.9
Agree	31	19.4
Strongly Agree	24	15
Total	160	100

A further 16% disagreed with this assertion, instead saying that delays in disbursement of building project funds is a norm in Kajiado County, ensuring that no project is completed in time. However, 11.9% respondents expressed reservation on the timeliness of disbursement of project funds, indicating that they are not sure if funds reach project managers and other project personnel on time. More than 35% of the respondents however agreed with the assertion that the project funds are normally disbursed in good time to enable project managers procure the required materials for construction.

**Project Identification Process**

The study sought to know the respondents’ opinions on the project identification process for building construction projects in Kajiado County. The respondents were asked to indicate their agreement with the opinion that the local community is heavily involved in carrying out feasibility studies for projects to be constructed. The study also sought to know the respondents opinion on priority given to projects constructed in Kajiado County. Responses were as shown in table 6.

**Table 6** Community participation in project identification

Response	Frequency	Percentage
Strongly Disagree	59	38
Disagree	27	16
Not sure	19	12
Agree	30	19
Strongly Agree	25	15
Total	160	100

The study findings in Table 6 show that 38% of the respondents strongly disagreed with the assertion that the local community is actively involved in carrying out feasibility study for the projects. A further 16% are of the contrary opinion to this assertion, instead arguing that most of the time the county government imposes projects they deem fit on the locals without any consultation, and only listen to donors and foreign funding organizations. This they say sometimes waste resources because much is channeled into the project yet their needs are not addressed. More than 35% of the respondents however agreed with the assertion that the county government involves local communities in carrying out feasibility studies to identify their needs before embarking on any project.

To verify if the needs of the local people were considered while selecting a project in the area, the respondents were asked to

give their views on the prioritization level, the responses are shown in Table 7.

**Table 7** Locals’ needs are prioritized in selecting a project in an area

Variable	Frequency	Percentage
Strongly Disagree	48	30
Disagree	44	28
Not sure	28	17
Agree	15	9
Strongly Agree	25	15
Total	160	100

From table 7, it is seen that 30% of the respondents strongly disagreed with the assertion that the local community needs were considered when choosing the kind of project to initiate in an area. Instead, the locals maintained that the county government embarks on projects that portray them to be working, while this was not the scenario on the ground. A further 28% were of the contrary opinion to this assertion, arguing that most of the time the county government imposes projects they deem fit without any consultation, and only listen to donors and foreign funding organizations. More than 24% of the respondents however agreed with the assertion that the county government establishes the locals’ needs before embarking on any building construction project.

**Project Management Factors**

The study sought to know the respondents’ opinion on the influence of project management factors on completion of building construction projects in Kajiado County. Respondents were asked to indicate if they agreed with an assertion that project supervision by the project manager and his/her staff ensures the project is completed on time. Their responses are seen on table 8.

**Table 8** Regular M&E influences the completion of building and construction projects

Variable	Frequency	Percentage
Strongly Disagree	28	17
Disagree	24	15
Not sure	33	21
Agree	50	31
Strongly Agree	25	16
Total	160	100

The results indicate that more than 45% of the respondents agreed with the assertion that monitoring the progress of building construction projects influences their rate of completion. Majority of the respondents argued that monitoring the project progress enabled the management to know which areas need more funding, hence reducing construction delays and necessitating successful completion of all initiated projects.

**Human Resource Factors**

The study sought to know the respondents’ opinion on the influence of human resource factors on the rate of completion of building construction projects in Kajiado County. Respondents were asked to indicate if they agreed with an assertion that the skills and academic qualification of the project management team played a significant role in ensuring that all initiated projects in the county are constructed to completion. Their responses are seen in table 9.

**Table 9** Project managers’ skills and qualification influence project completion rate

Variable	Frequency	Percentage
Strongly Disagree	28	17
Disagree	24	15
Not sure	21	13
Agree	34	22
Strongly Agree	53	33
Total	160	100

The findings show that more than 55% of the respondents agreed with the assertion that project managers’ skills and academic qualification play a significant role in ensuring completion of the projects. This they argued is because most skilled managers have the technical know-how on mitigating challenges that may arise due to the nature of the project. It was noted that managers with low qualifications normally lack creativity in handling challenging situations at work, slowing down the progress of the project, hence affecting its completion rate.

**Moderating effect of Compliance regulations on project completion**

The study sought to know the moderating effect of regulating policies on the completion of building construction projects in Kajiado County. Respondents were asked to indicate if they agreed with an assertion that adherence to compliance policies set by regulating bodies enhance the completion of building construction projects in Kajiado County. Their responses are seen in table 10:

**Table 10** Complying with the set policies enhance project completion in Kajiado County

Variable	Frequency	Percentage
Strongly Disagree	24	17
Disagree	18	11
Not sure	28	16
Agree	33	22
Strongly Agree	54	33
Total	160	100

The study findings in table 11 show more than 50% of the respondents agreed with the assumption that adhering to the regulations set by regulating bodies such as NCA, NEMA, and the Kajiado County Government allowed one to progress faster in their construction. It is therefore upon the project managers to ensure all documentations for their respective projects are ready and compliant with all the authorities in place, to avoid being stopped midway for not doing work as per the rules. This also ensures safety standards are observed to avoid collapse of building structures that normally lead to lose of lives and property.

**Regression Analysis**

Analysis of Variance (ANOVA) was carried out to verify if the independent variables had a statistical relationship with the dependent variable. The test results are shown in Table 11.

**Table 11** ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.404	4	0.101	5.325	0.002 <sup>b</sup>
Residual	0.664	35	0.019		
Total	1.068	39			

a. Dependent Variable: Completion of building construction projects in Kajiado County; Predictors: (Constant), Fund allocation, Project Identification, Project Management factors, and Human Resource Factors

The results in Table 11 show that the F value of 5.325 was statistically significant at 5% significance level since the P-value of 0.002 was less than the standard value of 0.05. This was an indication that all the independent variables were important explanatory variables for the dependent variable. Particularly; funds allocation, project identification, project management factors, and human resource factors were important explanatory variables of completion of building construction projects in Kajiado County.

The regression analysis was to check the magnitude of the effect of each independent variable on the dependent variables, and if each variable was statistically significant. The results for each independent variables are shown in table 12.

**Table 12** Regression Coefficients

Model	Unstandardized Coefficient		Standardized Coefficients Beta	t-Statistic	P-value
	B	Std. Error			
(Constant)	5.653	0.740		8.852	0.000
Fund Allocation	.608	0.621	0.618	-.847	0.013
Project Identification	-0.146	0.012	-0.148	-2.288	0.028
Project management factors	0.535	0.060	0.538	2.708	0.010
Human Resource factors	0.436	0.016	0.440	2.880	0.007

a. Dependent Variable: Completion of building construction projects in Kajiado County  
 b. Independent Variables: Fund allocation, project identification, project management and human resource.

**Hypothesis testing**

To test the hypotheses of this study, a regression analysis was carried out. Each of the independent variables in table 4.12 formed the four main hypothesis of this study. The null hypothesis of were rejected in that the variable was statistically significant, implying the t-statistics was higher than 1.96 and the p-value is less than either 0.01, 0.05 or 0.1.

**Hypothesis H<sub>01</sub>:** There is no significant influence of fund allocation on the completion of building construction projects in Kajiado County.

From the results on Table 4.12 the resultant regression model 1 is

$$Y_1 = 5.653 + 0.608X_1$$

The findings show that a unit increase in fund allocation (X<sub>1</sub>) would result in a 5.653 increase in the completion of building construction projects in Kajiado County. We therefore reject the null hypothesis H<sub>01</sub> in favor of the alternative hypothesis and conclude that there is a significant influence of fund allocation on completion of building construction projects in Kajiado County.

**Hypothesis H<sub>02</sub>:** There is no significant influence of project identification process on the completion of building construction projects in Kajiado County.

From the results on Table 4.16 the resultant regression model 2 is

$$Y_1 = 5.653 - 0.146X_2$$

The findings show that a unit increase in project identification process (X<sub>2</sub>) would result in a 5.653 decrease in the completion of building construction projects in Kajiado County. We therefore fail to reject the null hypothesis H<sub>02</sub> in favor of the alternative hypothesis and conclude that project identification process does not have a significant influence on completion of building construction projects in Kajiado County.

**Hypothesis H<sub>03</sub>:** There is no significant influence of project management factors on the completion of building construction projects in Kajiado County.

From the results on Table 4.16 the resultant regression model 3 is

$$Y_1 = 5.653 + 0.535X_3$$

The findings show that a unit increase in project management factors (X<sub>3</sub>) would result in a 5.653 increase in the completion of building construction projects in Kajiado County. We therefore reject the null hypothesis H<sub>03</sub> in favor of the alternative hypothesis and conclude that project management factors have significant influence on the completion of building construction projects in Kajiado County.

**Hypothesis H<sub>04</sub>:** There is no significant influence of human resource factors on the completion of building construction projects in Kajiado County.

From the results on Table 4.16 the resultant regression model 4 is

$$Y_1 = 5.653 + 0.436X_4$$

The findings show that a unit increase in human resource factors (X<sub>4</sub>) would result in a 5.653 increase in the completion of building construction projects in Kajiado County. We therefore reject the null hypothesis H<sub>04</sub> in favour of the alternative hypothesis and conclude that human resource factors have significant influence on the completion of building construction projects in Kajiado County.

The results from the hypothesis testing above show that show that fund allocation (X<sub>1</sub>), project management factors (X<sub>3</sub>), and Human resource factors (X<sub>4</sub>), have a significantly positive influence on the completion of building construction projects in Kajiado County. On the contrary, project identification process (X<sub>2</sub>) portrayed an insignificant inverse influence on the completion of building construction projects in Kajiado County.

**Correlation Analysis**

Correlation analysis is useful in testing the relationship strength between given variables. The values of correlation coefficient varies between -1 and 1 with values close to one (in absolute terms) suggesting perfect correlation. On the other hand, a correlation coefficient close to zero suggests absence of correlation. In this study, Pearson correlation coefficient was

used to examine the relationship between building construction project completion and explanatory variables. Correlation analysis was employed to establish the nature and the degree of the interaction between the lead variables in the research. Table 13 shows the results obtained.

**Table 13** Correlation Matrix

	Completion of Building Projects	Fund Allocation	Project Identification Process	Project Management factors	Human Resource factors
Completion of Building Projects	1				
Fund Allocation	0.681**	1			
Project Identification Process	-0.216	-0.247	1		
Project Management factors	0.567	0.515	0.669**	1	
Human Resource factors	0.506	0.506	0.598**	0.671**	1

Source: Author (2018)

The results of table 13 show that a significantly positive relationship exists between building construction project completion and fund allocation, with a correlation coefficient of 0.681. There is also a positive relationship between building construction project completion and project management factors, as well as human resource management factors with correlation coefficients of 0.567 and 0.506 respectively. The results also show an inverse correlation between building construction project completion and project identification process with a correlation coefficient of -0.216.

**Interpretation of Findings**

The study examined the influence of fund allocation, project identification process, project management factors, and human resource factors on completion of building construction projects in Kajiado County. The study found that there is a positive relationship between the building construction project completion, fund allocation, project management factors, and human resource factors which means that a reduction in any of the three factors will negatively affect the completion of construction building projects. These findings conform to those of Shaharudin, Samad and Bhat (2009), which found that there exists a direct correlation between fund availability and the completion of construction project. Saharudin *et al* (2009) also found that lack of management skills by project managers erodes the quality of work done, which would ultimately lead to the collapse or stalling of the project, since the project cannot meet the quality standards as well as standing the test of time.

The study also shows an adverse effect of project identification and completion of building construction projects, which means that there is need for thorough work to be done. These findings concur with those of Rahman, *et al.* (2009), which posits that lack of sufficient feasibility work results in wrong projects being implementing, leading to lose of resources and time.

**CONCLUSION**

From the research findings, it is evident that adhering to compliance regulatory measures enables fund allocation, project identification process, project management factors, as well as human resource factors to influence the completion of building construction projects in Kajiado County. The research found that project managers who sought for compliance

documentation early enough, mobilized funds from the county government and other funding agencies, and procured the required materials for the project always ended up having their projects completed and implemented within the time schedule set by their respective organizations. This study therefore concludes timely and adequate allocation of project funds, thorough project identification process, equipping the project staff with project management skills, as well as assembling a qualified project management team is a sure way of having successful building construction project that will always be completed within the required schedule.

**Recommendations**

From the study findings discussed above, it is evident that the successful completion of a building construction project is dependent on so many factors. Ensuring that the project team adheres to the set safety rules and regulations before embarking on the construction process gives the whole project a better chance of being completed on time. This ensures the project team avoids the embarrassment of having the construction stopped because the contractors have not adhered to the set rules and regulations. This reduces delays in project completion, as well as ensuring quality structures are constructed that will give the general public a good value for their money. The study therefore recommends that all project managers working on building construction projects in Kajiado County adhere to the safety regulation measures set by NCA, NEMA, and the county government of Kajiado. The team should also ensure the county budgetary allocation team sets aside funds for the project before embarking on any planning process for the same. The project identification process should also involve all stakeholders within the county, to ensure that the project once completed will benefit the whole community at large. The organization should also consider qualified personnel for construction jobs, as well as availing the right facilities for the project construction team to carry out the tasks of construction

**References**

Ahmed, S.M (2008) Construction Delays in Florida: An Empirical Study, Final Report  
 Aibinu, A.A and Jagboro, G.O (2012). The effects of construction delays on project delivery in Nigerian construction industry, *International Journal of Project Management*, 20(2), 47-76.  
 Assaf, S.A., Al-Khalil, M. and Al-Hazml, M. (2005) „Causes of Delay in Large Building Construction Projects“, *Journal of Management in Engineering*, Vol. 11, No. 2.  
 Bathurst, P.E and Butler, D.A (2010). *Building Cost Control Techniques and Economics*, Second  
 Best, R. and Khan, C. (2006) Evaluation of Construction Contractor Performance: A Critical Analysis of Some Recent Research. *Construction Management and Economics*, 24(12), 439-445.  
 Bosire, D.H.T, (2012). An Investigation into Construction Time Performance; *Construction Management and Economics*, E&FN SponLtd .  
 Bush, T. (2007). Educational leadership and management: Theory, policy and practice. *South African Journal of Education*, 27(3), 391-406.

- Divakar, K. and Subramanian, K. (2009). Critical Factors to be Monitored for Successful Completion of Construction Projects, *International Journal of Applied Engineering Research*, 4(8): 1557-1566. Edition, Heinemann, London.
- El Razek, M., Basssioni, H., and Mobarak, A., (2008). Delay causes in building Construction Projects in Egypt, *Construction Engineering and Management, ASCE*, 134(34), 831–841.
- Enshassi, A., Mohamed, S. and Abushaban, S. (2009). Factors affecting the Performance of Construction Projects in the Gaza Strip, *Journal of Civil engineering and Management*, 15(3): 269-280.
- Forss, K., Rebien, C. C., and Carlsson, J. (2002). Process use of evaluations: Types of use that precede lessons learned and feedback. *Evaluation*, 8, 29-45.
- Frimpong Y, Oluwoye J, Crawford L. (2013) Causes of delay and cost overruns in construction
- Gkritza, N., S. Labi and K. Sinha (2007) “Economic Development Effects of INDOT Transportation Projects”, FHWA/IN/JTRP-2006/37, SPR-2861, May 2007.
- Golafshani, N. (2003). Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report*, 8 (4), 597-607.
- Government of Kenya. (GOK) (2009). *Economic stimulus programme: Overcoming today's challenges for a better tomorrow*. Government Printer: Kenya.
- Harris, J.O and MacCaffer, R. (2005) *Modern Construction Management*, Iowa State Press, Fifth Edition, Blackwell Publishing Company, Ames, Iowa, USA.
- Kenya National Bureau of Statistics, (2015). *Economic Survey*. Nairobi: Government Printers.
- Kenya National Bureau of Statistics, (2015). *Statistical Abstracts*. Nairobi: Government Printers.
- Kenya National Bureau of Statistics, (2016). *Economic Survey*. Nairobi: Government Printers.
- Kenya National Bureau of Statistics, (2016). *Statistical Abstracts*. Nairobi: Government Printers.
- Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd Edition).
- Mugenda, A., and Mugenda, O. ( 2003). *Research Methods: Quantitative and Qualitative Approaches*. Nairobi: Acts Press Publishers.
- New Delhi: New Age International. of groundwater projects in a developing countries; Ghana as a case study. *International Journal of Project Management*, 23(4), 56-77.
- Saunders, M., Lewis, and P., Thornhill, A.,(2012). *Research Methods for Bussiness Students*, (9th Edition). London: Pearson.
- Schumpeter, J. A. (1934). *The theory of Economic Development*. Cambridge, MA: Harvard University Press.
- Settle, C., Wrightman, L. S. and Cook, S. W., (2004). *Research methods in social* (14<sup>th</sup> Ed.). New York : Holt, Rinehart and Winston.
- Settilez, C., Wrightman, L. S. and Cook, S. W., (1976). *Research methods in social* (3<sup>rd</sup> Ed.). New York : Holt, Rinehart and Winston.
- Sewang, S., Unsworth, K. and Sorbello, T., (2007). An exploratory study of innovation effectiveness measurement in Australian and Thai SMEs. *International Journal of Organizational Behavior*, 12(1), 34-45.
- Submitted to State Florida, Department of Community Affairs, Florida
- Thomsett, R. (2002). *Project Pathological, Causes, Patterns and Symptoms of Project Failures*. UK, London: ThornHill.
- Thwala W. D and Phaladi M. J. (2009)An Exploratory study of Problems Facing Small Contractors inthe North West Province of South Africa. *African Journal of Business Management*, 3(10), 24-35.
- United Nation, (1984). *The Construction Industry in Developing Countries: Contributions to Socio-Economic Growth*. *United Nations Centre for Human Settlements (Habitat)*, 1(4), 46-67.
- Waldrop, Mitchell M. *Complexity: The Emerging Science at the Edge of Order and Chaos*. NewYork: Simon and Schuster, 1992.
- Wallender, H. W. and et al. (1979). *Technology Transfer and Management in the developing countries, Company Cases and Policy analysis in Brazil, Kenya, Korea, Peru, and Tanzania*, Ballinger.
- Wells J., (2001). *Construction and capital formation in less developed economies: Unraveling the informal sector in an African City*, *Construction Management and Economics*, 19(2001)
- Wells, J. (1986). *The Construction Industry in Developing Countries: Alternative StrategyforDevelopment*, Croom Helm.
- Yun K. M and Abdul, R. H., (2010). Risk of Late Payment in the Malaysian Construction Industry. *World Academy of Science, Engineering and Technology*, 3(56), 34-48.

**How to cite this article:**

Jeremiah Nairowua et al. 2018, Factors Influencing Completion of Building Construction Projects In Kajiado County, Kenya. *Int J Recent Sci Res*. 9(8), pp. 28638-28645. DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0908.2497>

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