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Abstract

The study seek to assess how Environmental factors Influence Project implementation performance in building construction Projects in Kenya, to determine how leadership factors Influence Project implementation performance in building construction Projects in Kenya, to establish how cash flow factors Influence project implementation performance in building construction projects in Kenya, and to examine how Change of project scope Influence project implementation performance in building construction projects in Kenya . The target population was 220 respondents which necessitated a sample size of 15% randomly giving a sample size of 33 respondents .The sample size was drawn from parastatals, Consulting firms and contractors within Mombasa county. Data was collected by use of questionnaires and descriptive statistics used in data analysis with the help of statistical packages for social sciences (SPSS).Data presentation was in descriptive statistics such as frequency counts, percentages, mean and standard deviation. Testing of hypothesis was done using chi-square tests. The study findings established that Change of scope factors(X4), Cash flows factors(X3), Leadership factors(X2) and Environmental factors(X1) all with a level of significance of 0.000 which is less than 0.05 had a statistically significant relationship with project implementation performance(Y). The beta coefficients of constructs that constitute the four independent variables that predict the dependent variable: performance implementation was derived through the regression model equation as follows. $Y= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

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$Y= 0.477 + 0.281 (X_1) + 0.119(X_2) + 0.320(X_3) + 0.188(X_4)$.The equation shows that all factors have a positive influence on the implementation performance of building and construction projects. The regression equation shows a unit increase in environmental factors, leadership factors, cash flow factors and change of scope factors would lead to a positive increase of 0.298, 0.119, 0.320 and 0.188 respectively in implementation performance of building and construction projects in Kenya. The regression equation above established that holding all other factors constant (no determinants or factors) implementation performance of building and construction projects in Kenya would be 0.477.All the null hypothesis H_0 were rejected and the alternative hypothesis accepted

Keywords: *Project Implementation, Construction Projects, Implementation Performance, Leadership*

1.1 Introduction

The Kenyan Government has been carrying out projects throughout the country. The interest of the selected parastatals for this study on Building and construction projects is with main focus on such projects within the government corporations which for the longest time ever have implemented costly projects whose cost usually doubles the budgeted cost. The parastatals are ailed with missing project schedules with some of them never delivering the projects leading to quite a number of stalled projects. The Africa wide report by Deloitte in (May 2018) looked on Africa construction trends for the one year and indicated that, 87% of all Kenyan public projects suffered time delays while 48 % overshot their budgets creating a loophole for corruption to thrive. Kenyans gap between demand and supply for construction projects continues to increase. Public sector building and construction projects can be termed as active dynamic sector that is consistently constrained by uncertainties such as Postponement and more expenses that are intrinsic part of such ventures notwithstanding the greatly learnt knowledge in project management. Although some may argue that, this is ineligible, it is paramount to be aware that physical and economic sale of projects today is such that; it is driven under the platform of profit to the parent firm and of national interest by the amount of success defined within the iron triple triangle concept of time, cost and quality (Flyvbjerg, 2009), Which play a big role in project Implementation. The recurrent of project implementation uncertainties is widely rampant within the public sector construction projects and in fact has become a norm. According to Assaf (2009), 30% of construction projects were completed within the scheduled, scope and completion dates and that the average time, however with cost overrun was between 10 to 30%. In the present the issue on cost overruns may be an attribute and cause of uncertainties in implementation of project.

This calls for research on innovative, adaptive and dynamic project management approaches within the building and infrastructure projects from inception to successful completion (Askew, 2011). However, when the delay is the responsibility of the Government or caused by the Government, it's always justifiable and refundable. Nevertheless, when it comes to such projects being undertaken by many other stake holders, including government state agencies, local contractors, international construction companies, non-state agencies and development agencies or partners there must be accountability, control of resources and above all efficiency in delivery of the projects. Various research studies have been carried out to ascertain project implementation determinants (Frimpong, 2012) but have not done enough to investigate project implementation uncertainties. If the issues of effective project implementation are not addressed, then the country may be headed in the wrong direction due to debt issues with the

lenders. It is on this view that, the researcher sought to undertake the study on establishing project implementation performance determinants in building construction projects in selected parastatals in Kenya.

1.2 Study Objectives

The study was guided by the following objectives

i. To assess the extent to which Environmental Factors influence project implementation performance in building construction projects in selected parastatals in Kenya
ii. To determine the extent to which leadership factors influence project implementation performance in building construction projects in selected Parastatals in Kenya,
iii. To establish the extent to which cash flow factors influence project implementation performance in building construction projects in selected parastatals and
iv. To examine the extent to which change of scope influence project implementation performance in building construction projects in Kenya in selected parastatals.

1.3 Research Hypothesis

This study tested the following null hypotheses ($\mathbf{H_0}$) at 95% level of significance**:** Environmental factors have no significant influence on project implementation performance in building construction projects in Kenya; Leadership factors have no significant influence on project implementation performance in building construction projects in Kenya. Cash flow factors have no significant influence on project implementation performance in building construction projects in Kenya. Change of scope factors has no significant influence on project implementation performance in building construction projects in Kenya.

2.0 Literature Review

2.1.1 Environmental factors as a determinant of project implementation performance

As of West Africa and with main focus to the Nigeria, building and construction sector is an extensive choice of combined establishments that commonly construct, modify and repair a comprehensive variety of diverse structures and civil engineering projects. In a key evaluation of project management theory, Bennett (1991) recognized that the environment ecological conditions interfere with scheduled development of building and construction projects. The more foreseeable the surroundings the bigger its prospective special effects and the further it has to be put into consideration in managing the development of building and construction projects. The project environment in many developing countries like Nigeria have constraints and encounters for project managers that almost presumes broad cost and time overruns even before a project begins. These constraints are brought up by or from such in-built risks such as governmental related political affiliation, unnecessary governmental protocol contract procedures, and un availability of proper hard and soft infrastructure such as transportation networks, electricity supply, telecommunications systems and earth geotechnical conditions. In acknowledgment of these exceptional difficulties, preceding investigation surveys have recommended that there is an essential requirement to advance proper administration style and methods precisely tailored to the project environment of developing countries (Olusegan, Oyewale and Faniran, 1994). Project most commonly environmental recognized include; political, government policies, legal concerns, institutional, cultural, sociological, technological, resource, economic, financial and physical infrastructure concerns (Walker 2010). According to(Ajayi,2012) the four most essential outside environmental aspects in declining order comprise public concerns, weather situations, economic state (boom or meltdown) and government policy. According to Drewin the construction process is subjective by know- hows and both

outside and inside environments. Therefore, an arrangement between Drewin's open conversion system and delay causes identified in previous studies results in 45 potential delay factors summarized into three major categories: Production Elements which includes: Labour, materials and equipment related factors. Internal Environment which includes: Consultant, Contractor and Owner of the related factors. External environment which includes: weather, ground conditions, Government regulations and other reasons. In Kenya, such environmental factors are witnessed and every construction company must acquire such licenses from National Environmental Management Authority-NEMA, before any building is constructed. They must acquire or do environmental management plan throughout the project by doing Environmental Impact Assessment (EIA) and make such plans for the next two years. Failure to adhere or comply with the EIA report and recommendations, would lead to problems with authorities. The National Environmental Management Authority is mandated to stop noncompliance projects until compliance is achieved. Civil Societies as well as others that monitor such environmental degradation concerns are always alert and ready to raise complaints and in fact demonstrate where need be. These environmental factors as discussed above thus are elements of project implementation uncertainties and therefore affect the tabulated budget resulting to further expenses.

2.1.2 Leadership Factors as a Determinant of Project Implementation Performance

Top management plays a major role through their directing role in maximizing and delivering individual and organizational performance. Management capability is therefore a concern to all those organizations and countries that want or wish to continue being competitive. According to (Tamkin and Hillage (1997) an organization can underperform in through major competition indicators if the managers are under qualified and have inadequate levels of ability in capacity development.

Indicators of management capabilities in many organizations therefore include management knowledge, skills and aptitudes. Through incorporating the executive familiarity or skills of individuals, an organization realizes her administrative and supervisory capabilities. Incorporating distinct management familiarity for instance a cluster of individuals, hence a team can provide supplementary extra services as the ones done by specific leaders, because working as a team is a way to give services that are uniquely valuable for the undertakings for a particular group with which they are associated (Van a n d Wijk, 2000).

Consequently they become individually and mutually more treasured to the firm for the services they can render are enriched by the familiarity of their equals in improvement of the systems applied by the organization thus enhancing the handpicked means of undertaking tasks or issues by the measurement of capabilities in particular set of settings in which they are working. In a shared setting, managers remain gifted to supplement and influence each other's individual knowledge, both at high end knowledge modules and equal of the awareness or those domains of the knowledge.

When the shared responsibility is extra or kind of less permanent one, managers remain well specialize and build upon the abilities available in the firm, this is according to (Van Den Bosch et al in 2000). Since knowledge and mental models are diverse (Mahoney, 1995), temporal assemblages of different managers may possibly provide huge benefits in that reconfiguring and reintegrating their knowledge in management gives upsurge to new combinations and therefore new capabilities in management at the establishment level. In this case, and according to (Van Den Bosch et al in 2000) they suggested that for management capabilities, both composition and durability of a managerial collectivity (e.g. a management

team) determine the capacity of the managerial capabilities formed and achievement of any action in management. Project implementation is determined by the managing parties to act and direct with credibility and ability.

2.1.3 Cash flow Factors as a Determinant of Project Implementation Performance

Based on a research survey conducted by Roachanakanan in (2005) , the study established that the assembly and scheduling of funding facility may enforce certain limitations on the plan and forecast of the entire project. This was due to the fact that, the funding of the project had been confirmed and in place as the risk undertaking was too great to commit and as per the planned cost that the project may not get the grant. Bulk of contractors are small companies who have fragile commercial positions, out of date labor-intense technology and poor organizational structures and vision for progression and growth. They are extremely susceptible to government policies and alterations in regime or government directives are the leading factors for such additional expense connected to commercial and regulatory environment, that inspires improper and erroneous construction approaches that are the dominant system of the state agency or government to go by the its bottommost bid value technique.

This devises several inbuilt hitches and may not give the best worth. Often, such an occurrence works to the owner's and contractor's harm by creating arguments, cost overruns, and program delays which lead to project implementation uncertainties. Approaches used for cost approximation during the project cost forecast are not satisfactory to shield all the phases of cost of projects and as a consequence numerous cost items essential for the project remain unknown at the estimation phase and pops up as additional cost later. A study by Ramanathan in (2012) established that, the main sources of postponement are little compensation of the finished activities, the contractor’s monetary problems, cash difficulties throughout construction, price rises and financial complications to the owner.

Moreover, Afshari,(2010) appraised non-excusable sources of postponements in a construction firm in Hong Kong, in which he noted that the main reasons of postponements involve the choice of unqualified subcontractors, deficiency issues, the project Administration and alterations in choice of the original activities. Aibinu,(2006) stud on public segment construction projects postponement, additional expenses and what influences them emphasized that unsuitable and insufficient key performance indicators in procurement function and defective contractual administration structure leads to more additional expenses and postponement in project execution. Agreements read out almost each feature of a business connection, plus compensation terms, valuing, and service stages.

Therefore, an agreement that has not underlined the complete project situation might lead to disagreement on the same, an example is where if the previous presented signed agreement does not totally stipulate each applicable feature of the project works, this could lead to extended chains of consultations, arbitration, ratification of contractual agreement due to unclear and/ or for mitigation due to work alteration instructions and the search for revised predetermined agreement with new costs and plan

As per research survey done by Khalil in (2007), progress payments are the greatest significant additional expense and postponement factor. Project vendor’s belief that monetary problems by the contractors and improper contract acquaintance increases cost and time overruns in most of the public sector infrastructure projects. Moreover, the survey stated that inclusion of delayed payment of finished effort as reasons for postponement known as to

the result of delayed payment on continuing site activities and contractors stopping activities unless payment for completed work had been processed after the agreed date resulting into mammoth cost increase and project postponement which form the bulk of project implementation uncertainties.

El-Sayegh (2006), in his study, he established that deficiency in accurate financing of ventures caused postponement and cost increase as appropriate preparation of projects was ignored and hence lead to late approval of drawings, inadequate early planning of projects and slowness in the decision making process by the client. This caused unexpected delays culminating into cost increase that occasioned expensive projects on the government and its investors.

In Sriprasert (2000) study it was attested that cost increase generally is caused by ineffective building and construction management and below par established financial control systems, inflation of prices, funding and payment of completed activities which could be delayed frequently and unsound interest rates on finances loaned out to facilitate the construction projects .He stated that planning, inexact project cost appraisal, more cost of needed resources hence money, men, materials and machinery, unavailability of skilled staff, prices of raw materials and higher land pricing due to cartels were the main causes of project implementation uncertainties.

Olawale in (2010) from his survey, He identified delay and cost overrun as generated by inaccurate assessment of the projection financing options in facilitating the construction projects to the capacity levels but instead the inaccuracies influences overshoot in project costs as well as postponement of the project. He suggested proper and accurate appraisal of the financing structure required for the implementation of the planned construction projects to mitigate financing problems. According to Enshassi (2009) top factors that swayed project implementation uncertainties in cost included increment in material prices due to continuous delay in construction, variation in cost of construction materials, unsettlement of native currency in comparison to dollar value, funds and associated contingencies, lack of finance planning and monitoring during pre-test and post contract stages culminating into imprecise construction project implementation. In addition, Vietnam Le-Hoal (2008) established that top significant aspects that caused cost increase and postponement of construction projects undertaking comprised of economic problems of owner, economic problems of the contractor, price instabilities, funding and disbursements of concluded activities. This locks the projects from running as planned but to take a behind schedule basis that causes grave inconsistencies and lose of funds through needless conflicts, postponement, contract extension costs and interest on delayed payments. Tawil (2013) survey discovered that postponements in completion of government or municipal construction projects and poor performance has been experienced and led to disappointment in through attaining actual timelines hence meeting the three triplet constraint of time, cost and quality which when met indicate successful project implementation. This postponement is a common occurrence that happens especially where government projects are concerned in Malaysia. His study on factors triggering cost overruns in big construction projects in Malaysia, he confirmed cash flow and monetary problems faced by contractors and in ability of appropriate management and supervision of the available funds remain a grave cause.

A study by Wang (2010) established that, the structure and form of finance for construction projects in Kenya will be influenced by the kind of project at hand. For majority of such projects, financing is either through the indigenous local agencies or National Government sources, in some cases the projects will be income making and this income will remain as an

amount to pay bank loans and pay for repairs and operation to evade postponement and cost overruns.

Extensive knowledge, judgment and more focus on decision making are desired to advance a realistic rough approximation for the project cost, that the cost accountant who is the quantity surveyor in construction projects and the Civil Engineer in civil projects has to adjust the element of costs for quantities of materials, labour, location, and construction contingencies. Cost estimation techniques utilized locally don't carry on the in depth analysis. Assumptions and forecasting on cost rates are done on experience without incorporating price index. The typical technique of cost approximation is based on the bill of quantities that cumulates the expected cost approximation rather smaller than the planned cost in outcome imparting cost increase to the project. The major problem that forces contractors to stick to this method is that if estimated otherwise they might end up having higher cost estimates than others in the struggle for the job and they may not remain competitive to win contracts especially when lowest bidding method is adopted for bidding (Karimi, 2012).

2.1.4 Change of Scope Factors as a Determinant of Project Implementation Performance

The construction procedure is presumed to be difficult besides linked with several alternations. These alternations normally result to issuance of variation orders. A variation instruction in construction project is a work element that has been added or removed from the original scope of an agreement that alters the initial value of the agreement or the date of completion; certainly, a variation order is a problem for the development venture in positions of extra costs and extra time. An order of change from initial plan plays an important part in the construction sector because they are sources that trigger and impact on productivity, quality, schedule, costs, and safety. These alterations are through or brought in owing on the exceptionality of individual construction ventures, as well as the insufficient funds available for preparation, such as period required and capacity on labour capital. An order of change is not good for any construction venture unless necessary, as they lead to additional project costs and time.

Orders of change can vary from one project to another, one place to another, all the time and also depending on the type of work. Variation orders have for the longest time been an intrinsic part in this industry. You can almost not find that a construction project is has been concluded without alteration that commonly comes as a reason of sources credited to the various people involved in the implementation of the project. Once, alternations have been appraised, they are officially controlled by delivering an adjusting instruction that might bring an influence on both the cost and period of the project. Osman, Omran, and Foo,(2009) defined change as any deviation from a defined scope and schedule. The word "Variation Order" prompts strong feelings of disapproval to all the participants in construction projects. Owners dislike this since they believe that they are incurring expense borne by others mistakes. In some instance, contractors assume variation orders to interrupt activities and want supplementary certification and duration. Projects are barely completed without any change to the baseline plan a major constraint being on how to exactly approximate the project delivery time, whereas considering the impact of extra aspects that generate the inconsistency between projected and actual duration of the project. Large and extensive construction projects experience problems of interruptions and surplus costs. Alterations at each phase or on a steady basis in construction project interrupt the project schedule.

Changes are a fact of life for a construction project and the change may be small or manageable and have tiny impact on construction project. On the opposing, the alterations may increase thus mismanagement and have remarkable negative impacts on the construction project performance, particularly in relations to time and cost. Research on effects analysis of variation orders on project implementation is lacked. Hence, this study attempts to identify the effect of change orders on project implementation. Ambiguous contractual agreement with unclear clauses can be of potential dispute thus generating delay and cost overrun in the project as affirmed by Hanimis study (2010).

Hanimis said that time and cost overrun are major in project implementation performance and could be characterized by poor contractor choosing and unscrupulous behavior, agreements, bid amount, difference between the winning bid and second bid, difference between the winning bid and the engineer' s estimate among other cost variables. Meager selection owing to the low bids principle, with no practical ability to oversee the project will lead to cost overruns resulting from change in scope due to non-performance of the contractor and therefore contracting others to finish the project, schedule postponements, poor quality, and as an end result project implementation performance decline. Additionally, a contract management system that have slow schedule of payment could result to time loss and cost escalation

Results from a study done by Kogi (2013) reported that postponement and cost overrun of public sector construction projects happen completely during project initiation phases, Hence, during the planning stages of project initialization. The project owners may be accountable for the postponements, interruptions or stoppages to all activities by reason or an act or failure to act by the owner emanating from gaps of owner's responsibilities, stated or understood.

These comprises of communication break by owners and their agencies (consultants) who overlook the issues and fail to give the service provider- vendor or contractor the appropriate information and details for which the service provider has precisely requested in writing especially when they are not happy with what was initially designed. In addition, he said that developers were accountable for interruptions in issuing endorsements on changes, contracts signing and site access. The findings also pointed out that owners were accountable for the prime proportions of disparities, all of which have postponement and cost implications leading to project implementation performance decline.

3.1 Research Methodology

The researcher adapted descriptive research model. This type of model of data collection from respondents is convenient as it does not change the environment or manipulate any data or finding. In this study, the population was drawn from; 80 Construction company owners, 40 Material Suppliers Managers, 40 Project Managers, 40 Project Designers and 20 Civil Servants from Line Ministries. The study target population was therefore 220 participants from players in the construction industry as outlined above within Mombasa County in Kenya.

4.0 Research Findings and Discussion

4.1.1 Descriptive Statistics for Environmental Factors

Various dimensions in relation to Environmental factors were asked through statements and using likert scale. The respondents put across their opinions. Analysis of the statements and findings were presented in Table 1.

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Table 1: Descriptive Statistics for Environmental Factors(X_1)

Statement	Mean	Std Dev
a) Political instability influences project implementation performance in construction projects in parastatals	4.69	0.278
b) Government policies influence project implementation performance in construction projects in parastatals	4.8	0 .351
c) Soil Geotechnical characteristics influences project implementation performance in construction projects in parastatals	4.75	0.318
d) Project topological location influences project implementation performance in construction projects in parastatals	4.68	0.381
e) Safety considerations influences project implementation performance in construction projects in parastatals	4.71	0.322
Composite Mean and Std deviation	**4.73**	**0.33**

The findings on Table 1 indicates that majority of the respondents strongly agree that environmental factors influence the performance of construction projects in Kenya in selected parastatals. This is validated by a composite mean of 4.73 and a standard deviation of 0.33 which is way lower than 1 indicating that most respondents strongly agreed with the statements (a) to (e) on environmental factors.

4.1.2 Hypothesis testing for Environmental Factor and project performance Implementation

Testing of hypothesis was done using chi-square test. The first objective was hypothesized as follows:

H_0; Environmental factors has no significant influence on project implementation performance in building construction projects in Kenya.

The findings were presented in Table 2

Table 2: Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	68.398[a]	24	.000
Likelihood Ratio	45.224	24	.005
Linear-by-Linear Association	24.211	1	.000
N of Valid Cases	33		

a. 34 cells (97.1%) have expected count less than 5. The minimum expected count is .03.

The results from Table 2 shows that the value of the Chi-square statistic is 68.398 while the P-value in the Asymptotic significance column is 0.000. In analysis the result is considered to be significant if the P-value is equal to or less than the designated alpha level of 0.05. Thus in this case the alternative hypothesis (H_1) is accepted and hence the conclusion that there is a significant relationship between environmental factors and project implementation performance in building construction projects in Kenya.

4.2 Influence of Leadership Factors on Implementation Performance of Construction Projects

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The study used descriptive statistics to analyze the depth of leadership factor influence on project implementation performance in building Construction Projects in Kenya in selected parastatals. Hypothesis two was tested using chi-square tests.

4.2.1. Descriptive statistics for Leadership Factors

The researcher sought to find out if leadership factors affect implementation performance of construction projects. The findings were subjected to descriptive statistics to analyze the depth of the leadership factor influence.

Table: 3: Descriptive statistics on Leadership Factors(X_2)

Statement	Mean	Std Deviation
a) Top management support influences project Implementation performance in construction projects in parastatals	4.80	0. 245
b) Leadership style influences project Implementation performance in construction projects in parastatals	4.85	0.322
c) Top management education level influences project Implementation performance in construction projects in parastatals	4.75	0.255
d) Specifications delay influences project implementation performance in construction projects in parastatals	4.80	0.233
e) Poor performance by contractors and sub-contractors influence project implementation in construction projects in parastatals	4.80	0.272
Composite Mean and Std deviation	**4.80**	**0.265**

Results from Table 3 shows a composite mean of 4.8 and 2.65 standard deviation implying that majority of the respondents strongly agreed that leadership factors influences performance implementation of construction projects in Kenya.

4.2.2 Hypothesis testing for Leadership Factors and Project Implementation Performance

This section presented the results of the test of the second hypotheses of the study. The following hypothesis was formulated for testing:

H_0: Leadership factor has no significant influence on project implementation performance in building construction projects in Kenya.

The results of the test are presented in Table 4

Table 4: Chi-Square Tests for Leadership Factors

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	95.630[a]	28	.000
Likelihood Ratio	48.797	28	.009
Linear-by-Linear Association	23.356	1	.000
N of Valid Cases	33		

a. 39 cells (97.5%) have expected count less than 5. The minimum expected count is .03.

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The results from table 4 show that the value of the Chi-square statistic as 95.63 while the P-value in the asymptotic significance column is 0.000. In chi square tests the result is significant if the value is equal to or less than the designated alpha level of 0.05. In this case the P-value is less than the standard alpha value and therefore the alternative hypothesis (H_1) accepted. Thus the conclusion that, Leadership factors have significant influence on project implementation performance in building construction projects in Kenya in selected parastatals.

4.3 Influence of Cash Flow Factors on Project Implementation Performance

The study further sought to examine how Cash Flow Factors are determinant in project implementation performance of construction projects in Kenya.

4.3.1 Descriptive statistics for Cash Flow Factors

Before analysis of the influence of the cash flow variable the researcher sought to establish whether cash flow issues affected the projects under study. To determine this the study used means and standard deviation. The finding were indicated in Table 5

Table 5: Descriptive Statistics for Cash Flows(X_3)

Statement	Mean	Std Dev
a) Cost inflation influences project Implementation performance in construction projects in parastatals	4.65	0.33
b) Change in scope influences project Implementation performance in construction projects in parastatals	4.7	0.289
c) Financial planning influences project Implementation performance in construction projects in parastatals	4.8	0.398
d) Economic conditions influence project implementation performance in construction projects in parastatals.	4.85	0.33
e) Late delivery by contractors influence project implementation performance in construction projects in parastatals	4.85	0.272
Composite Mean and Std deviation	**4.77**	**0.324**

The findings on Table 5 shows that most respondents strongly agree that cash flows factors affect implementation performance in construction projects with a composite mean of 4.77 and standard deviation of 0.324 meaning that most responses were clustered around the mean. This further necessitated the need for more tests to ascertain the level of relation between the two variables.

4.4 Hypothesis testing for Cash Flow Factors and Project Implementation Performance

The study tested the third hypothesis using chi-square tests to determine the relationship between cash flow and project implementation performance. The hypothesis was stated as follows; H_0: Cash flow factor has no significant influence on project implementation performance in building construction projects in Kenya.

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Table 6: Chi-Square Tests for Cash Flow Factor

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	60.813[a]	28	.000
Likelihood Ratio	40.577	28	.059
Linear-by-Linear Association	22.474	1	.000
N of Valid Cases	33		

a. 39 cells (97.5%) have expected count less than 5. The minimum expected count is .03.

From the results in Table 6, the probability of the chi-square test statistic is 60.813 and the p Value is 0.000, which is less than the alpha level of significance of 0.05. Therefore, the study concludes that there is a statistical significant association between cash flow factors and implementation performance of construction projects in Kenya. Thus the researcher accepts the alternative hypothesis (H_0) that cash flow factors have a significant influence on implementation performance of construction projects in Kenya.

4.4.1 Influence of Change of Scope on Project Implementation performance in Construction Projects in Kenya

The study sought to examine how change of scope influences project implementation performance in construction projects in Kenya. The researcher used descriptive statistics and inferential statistic to make conclusions.

4.4.2 Descriptive Statistics of Change of Scope Factors

The researcher used a questionnaire to collect views on change of scope. The responses were subjected to descriptive statistics. The findings were presented in table 4.9

Table 7: Descriptive Statistics for Change of Scope Factors(X_4)

Statement	Mean	Std Dev
a) Timeliness influences project Implementation performance in construction projects inparastatals	4.86	0.239
b) Contractor disagreements influences project Implementation performance in construction projects In parastatals	4.74	0.311
c) Budget change influences project Implementation performance in construction projects in parastatals	4.67	0.285
d) Errors and omissions in design influences project implementation in construction projects in parastatals	4.8	0.333
e) Change in materials influences project implementation performance in construction projects in parastatals	4.87	0.32
Composite Mean and Std deviation	**4.79**	**0.298**

The findings in Table 7 indicate that the respondents strongly agreed with the statements on change of scope factors, this was elaborated with all responses scoring means larger than 4.5. The composite mean was 4.79 and the standard deviation of 0.298 showing that the respondents collectively and strongly supported change of scope factors as having great influence on construction project implementation performance in Kenya.

4.4.3 Hypothesis testing for Change of Scope Factors and Project Implementation Performance

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The testing of hypothesis four was done using chi-square tests to ascertain if there is an association between the two variables. The findings were presented in table 4.10.

Table 8: Chi-Square Tests for Change of Scope

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	71.585[a]	28	.000
Likelihood Ratio	47.640	28	.012
Linear-by-Linear Association	21.953	1	.000
N of Valid Cases	33		

a. 39 cells (97.5%) have expected count less than 5. The minimum expected count is .03.

The findings in Table 8 show a chi-square value of 71.585 with the P-value in the asymptotic significance column as 0.000. The result is significant if the value is equal to or less than the designated alpha level of 0.05. In this case the P-value is smaller than the standard value and therefore the alternative hypothesis (H_0) is accepted. The large Chi-Square statistic (71.585) and its small significance level ($p< .001$) indicate that it is very unlikely that these variables are independent of each other. Thus, it can be concluded that there is a relationship between Change of Scope and implementation performance of construction projects in Kenya.

4.5 Determinants of Project Implementation Performance in building Construction Projects in Selected Parastatals in Kenya

4.5.1 Model Summary

Table 9: Model Summary

	R	R Square	Adjusted R Square	Std.Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig.F Change
1	.922[a]	.849	.828	.12362	.849	39.441	4	28	.000

a. Predictors: (Constant), Change of scope factor, cash flows factor, Leadership factor, Environmental factor.

The findings in Table 9 indicates that the adjusted R^2 is 0.828 which means that 82.8% of the implementation performance can be explained by the factors answered in the study namely; Change of scope factor(X4), Cash flows factor(X3), Leadership factor(X2), Environmental factor(X1). The level of significance was at 0.000 which is less than 0.05 implying that there is a statistically significant relationship for all the four determinants in the study.

4.5.2 The Analysis Of Variance

Analysis Of Variance Are presented in Table 10

Table 10: Analysis of Variance (ANOVA)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.411	4	.603	39.441	.000[b]
	Residual	.428	28	.015		
	Total	2.839	32			

a. Dependent Variable: implementation performance

b. Predictors: (Constant), Change of scope factor, cash flows factor, Leadership factor, Environmental factor.

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From the Analysis of variance (ANOVA) Table 10 which examined if there were significant differences between the study variable means, the findings show that F (4, 28) =39.441; P value = 0.000, the F value was way above 2 and P value less than 0.05 therefore it meaning the variables were statistically significant in explaining the relationship between them.

4.5.3 The regression coefficient is shown in Table 11

Regression coefficient of Determinants of Project Implementation Performance in building Construction Projects in Selected Parastatals in Kenya

Table 11: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.477	.347		1.373	.181
	Enviromental Factors	.281	.144	.314	1.951	.061
	Leadership Factors	.119	.164	.127	.728	.473
	Cash flow Factors	.320	.114	.349	2.812	.009
	Change of Scope Factors	.188	.129	.213	1.454	.157

a. Dependent Variable: Implementation Performance

Results from Table 11 also shows the beta coefficients of constructs that constitute the four independent variables that predict the dependent variable implementation performance. The regression model equation was derived as shown below.

$Y= \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$

$Y= 0.477 + 0.281\ (X_1) + 0.119(X_2) + 0.320(X_3) + 0.188(X_4)$

The equation shows that all factors have a positive influence on the implementation performance of building and construction projects. The regression equation shows a unit increase in environmental factors, leadership factors, cash flow factors and change of scope factor would lead to a positive increase of 0.298, 0.119, 0.320 and 0.188 respectively in implementation performance of building and construction projects in Kenya. The regression equation above has established that holding all other factors constant (no determinants or factors) implementation performance of building and construction projects in Kenya would be 0.477.

5.1 Conclusion

The study conclusion was from model summary as indicated. Environmental, Leadership, Cash flows and Change of scope of Project Implementation Performance in Building Construction Projects in selected Parastatals in Kenya.

On environmental factors, majority of the respondents strongly agreed that environmental factors influence the performance of construction projects. This was justified through a combined mean of 4.73 and a combined standard deviation of 0.33

On leadership the combined mean of the statements was 4.8and the combined standard deviation was 0.265, therefore it was evident that majority of the participants strongly agreed that leadership factor influences performance implementation of construction projects.

cash flow factors had a combined mean and standard deviation of 4.77 and 0.324 respectively which meant that most responses were clustered around the mean. This was an indication that the

statements had effect to implementation performance of building and construction project. The probability of the chi-square test statistic was 60.813 and the p Value was 0.000, which was less than the alpha level of significance of 0.05. This meant that, there was a statistical significant association between cash flow factors and implementation performance of construction projects in Kenya

On Change of scope findings indicate that the respondents strongly agreed with the statements on change of scope factors, this was elaborated with all responses scoring means larger than 4.5. The composite mean was 4.79 and the standard deviation of 0.298 showing that the respondents collectively and strongly supported the change of scope factor. The chi-square value was 71.585 with the P-value in the asymptotic significance column 0.000. The result is significant if the value is equal to or less than the designated alpha level of 0.05. In this case the P-value is smaller than the standard value and therefore the alternative hypothesis (H_0) was accepted. The large Chi-Square statistic (71.585) and its small significance level ($p < .001$) indicate that it is very unlikely that these variables are independent of each other. Thus, it can be concluded that there is a relationship between Change of Scope and implementation performance of construction projects

6.1 Recommendations

The stakeholders in the building and construction projects industry need to conduct pre project feasibility studies on project implementation performance factors. This will help come up with mitigation measures in case any of the factors underscores in performance and therefore successfully avoid the impact of such nonperformance.

7.1 References

Abedi, M. et al (2011): *Mitigation Methods for delays in construction projects at the Symposium as from- 9 & 10 Apr 2011, UPM, Malaysia.*

Afshari, H. (2010): *Causes of non-excusable delays of construction projects International Conference on management and economics, Hong Kong, 28-30, Dec 2010, pp 42-46.*

Ahmed,S.M et al(2002*);Construction delays in Florida: Final Report. Florida International University: Miami.*

Al-Gahtani, C. (2007): *Identification of the causes of deadline slippage in construction Projects. Journal of service science and management.*

Aibinu, A.A et al, (2002): The impact of construction delays on project delivery in Nigerian Construction industry: *International Journal of Project Management, 20 (2002): 593–599.*

Alkhathami, M.M. (2004): *Examination the relationship of critical success and delay Factors in construction projects in the kingdom of Saudi Arabia.* The Thesis University of Pittsburgh.

Akinsiku & Akinsurile (2012): Stakeholders' Perception of the Causes and Effects of Construction Delays on Project Delivery. *Journal of Construction Engineering and Project Management, 2(4), 25-31.*

Angelo W. J. & Reina P. (2002): Megaprojects need more study up front to avoid cost overruns *(Arabia, Cost Engineering, Vol. 44, Issue 5, pp 30)*

Apolot, R., Alinaitwe, H. & Tindiwensi, D. (2013): *An investigation into the causes of delay and cost overrun in Uganda's public sector construction projects*

Mwakali, J. & Alinaitwe, H. (Eds).*Proceedings of the Second International*

Conference on Advances in Engineering and Technology Entebbe, Uganda. Uganda: Macmillan Uganda (Publishers) Ltd, pp. 305-311.

Askew, N. (2011): *Cost Overrun concern in the construction sectors of Pakistan, at an International Conference of least Developed Countries.(Advancing and integrating construction education, research and practice Karachi, Pakistan*

Assaf, S.A et al (2009): Causes of delay in large construction projects. *International Journal of Project Management, 24 (2006)*

Arditi et al, (2001): Cost Overruns in Public Projects. *International Journal of Project Management,3(4), 218-224.*

Ajayi, O.Ogunsanmi, O.Salako, O,Mafimidiwo, B.(2012):*Impact of risk on performance of design and build projects in Lagos State, Nigeria.In proceeding of 4th WABER conference, 203-215,Abuja, Nigeria.*

Bent, B.N et al (2002): *Factors affecting project success. Project management Handbook. pp. 902-919.*

Bennett J (1991): *International Construction Project Management: General Theory and Practice, second ed., Butterworths Heinemann, Oxford, 1991*

Bert W et al (2012): A new framework for determining critical success/failure factors in projects. *International Journal of Project Management 14(3), pp. 141-151.*

Boiton, 1990): *Research Methods in Librarianship: Techniques and Interpretation. Orlando, FL: Academic Press, Inc.*

Chan, A. & Kumaraswamy, M. (1998). *Delays and cost overruns in the construction Projects in the Gaza strip*

Choudhry et al (2004): *Journal of Construction Engineering and Management 125(3), pp. 142-150.*

Crawford L H, (2012): *On Project Management Competence for the New Millennium as cited on The Theory of the Management Competency Theory.*

Denini, F. (2010): *Causes of Delay on construction projects in Libya 6th International Conference on the Built Environment in Developing Countries. 4-5 December 2012, Adelaide, Australia.*

El-Sayegh, S.M. (2006/8): *Risk assessment and allocation in the UAE construction industry", International Journal of Project Management, 26, pp. 43-438, Enshassi, A. et al (2009): Delays and cost overruns in the construction projects in the Gaza Strip. J. Financial management. Property Construction. 14: 126-151.*

Faniran et al (1994): *Interactions between construction planning and influence factors.Journal of Construction Engineering and Management, ASCE, Vol.124, No. 4, pp*

Frimpong et al (2003*):* Causes of delays and cost overruns in construction of groundwater projects in a developing country; Ghana as a case study.*" Int. J.Project Management, vol 21, pp 321-326*

Flyvbjerg, B et al, (2002): *Underestimating Costs in Public Works Projects. Journal of the American Planning Association*

Hanim et al, (2010): Factors affecting cost performance: evidence from Indian construction Projects. International *Journal of Project Management 23(4), pp.283-295.*

Kagiri, D et al, (2008): *Time and Cost Overruns in Power Projects in Kenya: A Case Study of Kenya Electricity Generating Company Limited, Nairobi.*

Kaming, P.F et al (1997): Factors influencing construction time and cost overruns on high-rise Projects in Indonesia. *Construction Management and Economics 15(1), pp. 83-94.*

Keane, P. J., Caletka, A. F. (2008): *Delay Analysis in Construction Contracts, Wiley- Blackwell, UK and Kenya, The Case of Government Funded Projects", Unpublished MBA, Thesis University of Nairobi.*

Kikwasi,G.J. (2012)*:Causes and Effects of Delays and Disruptions in Construction Projects in Tanzania. A Journal of Construction Economics and Building, Conference Series 1 (2), 52-59.*

Kogi, D. (2013): *Factors causing delays and cost overruns in public sector construction Projects in Kenya.*

Kombo, D. (2006): *Proposal and thesis writing, an introduction, 2nd reprint*

Koushki,Le-Hoal et al,(2008):Delay and Cost Overruns in Vietnam Large Construction Projects, an Assessment with Other Selected Countries. *Journal of Construction Management from pages 367-377.*

Locke, (2010): Project Management: Managing the Chaos of Change. *Journal of Business Strategy 23(5), pp. 5.*

Long Le-Hoai et al, (2008): Delay and cost overruns in Vietnam large construction projects: a Comparison with other selected countries. *KSCE J. civil engineering 12(6): 367-377.*

Memon, A.H et al, (2012): Time and Cost Performance in Construction Projects in Malaysia. International *Journal of Advances in Applied Sciences:Vol.1, No.1, March 2012, pp. 45-52.*

Moser, C.A. et al, (1971*): Survey methods in social investigation. Heinemann Educational: UK*

Mohamad, M.R.B. (2010): *The factors and effect of delay in government Construction project, Case study in Kuantan, Bachelor"s degree thesis:* University Malaysia Pahang. 349–357.

Morris (2009): *The anatomy of major projects: a study of the reality of project Management.* Chichester; New York: Wiley.

Motaleb, O. et al (2010): *An investigation into causes and effects of construction delays 26th Annual ARCOM Conference, 6-8 September 2010, Leeds, UK: Association of Researchers in Construction Management, 1149-1157.*

Msafiri, A. S. (2015): An Investigation into Factors Causing Delays in Road Construction Projects in Kenya. *American Journal of Civil Engineering, Vol.3 (3), 51-63.*

Mugenda, O. M. and Mugenda, A. G. (2009): *Research Methods: Quantitative and Qualitative Approaches.* Nairobi: Acts Press.

Nkado, (1995): Time and budget: the twin imperatives of a project sponsor. *International Journal of Project Management 15(3), pp. 181-186.*

Odeyinka, H.A. and Yusuf, A. (2010): The causes and effects of construction delays on cost of housing project in Nigeria. *Journal of Financial Management and Real Estate construction. 2, 31*-41.

Olawale, Y.A (2010): *Cost and time control practice of construction projects in the UK.The Pursuit of effective management control" university of the West of England*

Osman Z et al (2009): The Potential Effects of Variation Orders in Construction Projects on; Journal of Engineering. Tome Vii (Year 2009). (Issn 1584 – 2665) Delay in Iranian Construction Projects. *Australian Journal of Basic and Applied Sciences, 5(7): 450-456*

Ramanathan, C. (2012): Construction delays causing risks on time and cost. *Australian Journal of construction Economics and Building.*

Roachanakanan K (2005): *A case study of cost overruns in a Thai condominium project", Degree of doctor of philosophy, Texas A&M University*

Saleh, A.H.T, et al (2009): *Causes of delay in construction industry in Libya. The International Conference on Economics and Administration, University of Bucharest, Romania: 14- 15th November 2009.*

Sambasivan, M. and Soon, Y.W. (2007): Causes and effects of delays in Malaysian construction Industry. *International Journal of Project Management, 25 (2007):517–526.*

Sriprasert, et al, (2000): The project implementation profile: new tool for project managers. *Project Management Journal 17(4), pp. 57-70.*

Sunjka, B.P. and Jacob, U. (2013*): Significant causes and effects of project delays in the Niger delta region, Nigeria. SAIIE25 Proceedings: Stellenbosch, South Africa2013 SAIIE.*

Tamkin P. & Hillage, J. (1997): *Management Development in the UK: A Framework of Indicators, a report for the MCI.*

Tawil, N. (2013): *Factors contributing to delay in construction projects in Higher Learning Education. Research Journal of Applied Sciences, Engineering and Technology.*

Van Wijk, R.A et al, (2000): *Information Features of Internal Network based Forms of Organizing. Havlovic (ed.), Academy of Management Best Paper Proceedings, forthcoming.*

Vidalis, R. (2002*): A Framework for Successful construction Project Performance.Glasgow Caledonian University*

Wilson, D.H.T (2008): *An investigation into factors that determine building construction time Performance. Royal Melbourne Institute of Technology.*

Yang, R.K. (2008): *Case study research: design and methods / Robert K. Yin. 3rd ed. ed.: Sage Publications*

Zhu et al 2004): *A stage–by–stage factor control frame work for cost estimation of Construction projects, Owners Driving Innovation International Conference.*