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The quest for quality residential buildings in Nairobi city county, Kenya: A focus on project closure phase

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Abstract
There has been an upsurge of buildings collapsing in recent past in Kenya particularly in the capital city of Nairobi. One main cause has been attributed to disregard of quality management during project construction phases. This study sought to analyze the influence of project closure phase on quality of residential buildings. Descriptive survey and correlational research designs were used in a mixed methods research approach. Quantitative data was collected through a questionnaire while qualitative data was collected through an interview guide. Research instruments were pilot tested for validity through content related method and reliability through split- half criterion. A sample of 192 respondents was selected by use of Yamane's (1967) sampling size formula from a population of 3475 registered contractors in Nairobi County by May 2017. A census survey was conducted among the 67 engineering consultants and 24 officers in top management teams of NCA and NBI. Arithmetic mean and standard deviation were used for analyzing descriptive data while Pearson Product Moment Correlation (r) and regression analysis (R^2) were used for analyzing inferential data. F-tests were used to test the hypothesis in the study. Tests of statistical assumptions were carried out before data analysis to avoid invalidation of statistical analysis. With r = 0.352, R^2=0.124, F (1,222) =35.100 at p= 0.000 < 0.05, the null hypothesis was rejected and it was concluded that there is a positive relationship between project closure phase and quality of residential buildings. It is recommended that a project audit should be done after the completion of all project phases. This aims at establishing whether the project goal was accomplished and whether the activities were conducted in the right manner. This would also establish whether the resources were utilized effectively and if there was any wastage.

Keywords: building projects, contractors, project closure, quality, residential buildings

1. Introduction
Every project has a start and an end which means that project is carried out during a fixed amount of time with a distinctive purpose. The last phase of the project life cycle, that is, project closure phase is an important stage in the lifespan of a project and requires due diligence (De, 2001) [3]. De (2001) [3] and Dvir (2005) [4] stress that like all the other phases of project life cycle project closure should be properly planned and budgeted. Gardiner (2005) [5] points out that the closure commences during the project planning phase and associated activities continue all through the project cycle to ensure that the project closes smoothly. All project stakeholders need to be part and parcel of the termination of the project to verify achievement of set objectives to the required standard.
The project closure combines two procedures which include handing over of the project deliverables and documenting lessons learned through the experiences in the project (Gardiner, 2005) [5]. The project closure is foreseeable but how it is handled and when it is handled have a huge impact on the success of the project (Hormozi, Minn and Nzeogwu, 2000) [10]. This calls for in-built strategies to ensure smooth termination and hand-over of the completed project to the owner. Alsagour (2014) [1] outlines the contract closure procedure which involves confirmation of project scope, performing formal approval and handover of the final product or service to the customer, making project final documentation and presenting an overview of project performance to the customer. Other procedures also carried out involve making sure all other processes are completed, communicating lessons learned, dissolving project organization and transferring responsibilities and other resources to other projects. De (2001) [3] posits that improper handling of project closure can result in several unfavourable effects such as time over- run, cost over-run, tarnishing the image and credibility of the project team, locking up valuable human and other resources, that could have been gainfully utilized elsewhere and stress on the project personnel.

1.1 Statement of the Problem
Projects are intended to create a precise exclusive result, and on achieving this outcome, the end is reached, and culminates in the project closure. It is important that all actions that are included in the closing phase are performed thoroughly, since only then will a project be considered as closed. The closing of a project needs to be addressed in the beginning, preferably in the planning stage where you plan for resources, budget and people involved. This is because there needs some sort of clarity what happens after the project is done.
The essence of the closing phase is that all the stakeholders agree that the project has achieved its assigned objectives having met the acceptable building standards. In some

instances however, the closure phase requirements are not adhered to. This has culminated in commissioning of faulty structures and collapse of several buildings. According to the National Buildings Inspectorate, about 1,440 of 4,690 houses that had been inspected in Nairobi between 2015 and the first two quarters of 2017, require urgent action. Of these, 640 need immediate testing of the materials and standards used on concrete, and steel and bricks (National Buildings Inspectorate, 2015). While reliable building codes are widely used in design, builders in developing countries often fail to meet acceptable standards. Structural defects are frequently identified too late, often after catastrophic collapse.

Sometimes, the impact of unsafe construction may have immediate consequences of structural damage or collapse, but, in other instances, deterioration may be a gradual process spanning several years, often unnoticed but ultimately leading to a total failure of the structure. Such cases raise issues regarding professionalism in the building construction industry. Building structures that meet set standards are an asset to a country's economy as they are sustainable since they meet the needs of the present generation while also considering future needs.

1.2 Objective of the Study

The objective of this study was to establish ways in which project closure influences quality of residential building construction projects in Nairobi County.

Hypothesis of the study

The following Null Hypothesis was tested:

H_{04}: There is no significant influence of project closure on quality of residential building construction projects in Nairobi County.

2. Literature Review

2.1 Project Closure Phase and Quality of Residential Building Co0nstruction Projects

Project closure refers to the process of formally ending the project activities (Sanghera, 2006). It consists of the processes that are performed to officially finish and close all the assignments in a project or phase. The concluding action usually includes the approval and transfer of the project deliverables to the user or customer. Although a lot has been written about starting and executing a project successfully, Havila, Medlin and Salmi (2013) [8] point out that closing the project doesn't find a lot of presence in the project management literature and that fewer than 5% pages in a typical literature artefact discuss project closure requirements. Not all the projects undergo a smooth journey culminating in a successful end and some of the projects need to be terminated even before they have accomplished the planned goals and objectives (Havila, *et al*., 2013) [8]. Project completion inspection is important and should be planned for as part of the project closure processes.

The practice of project close-out finalizes all project activities completed across all phases of the project to formally close the project and transfer the completed or cancelled project as appropriate (Rohaniyati, 2009) [16]. Project closure involves verification by the client, contractor and consultant that all activities have been finalized, documentation has been done and storing relevant information (Rohaniyati, 2009) [16]. It also entails verifying that the project has addressed the terms and conditions of the contracts, finalizing of exit criteria for contract termination, validating exit criteria and formally closing out all contracts associated with the completed project (Guyer, 2011). The purpose of project close-out is to assess the project, ensure completion, and derive any lessons learned and best practices to be applied to future projects. The project closure is foreseeable but how it is handled and when it is handled have a huge impact on the success of the project (Hormozi, McMinn, and Nzeogwu, 2000) [10]. De (2001) writes that improper handling of project closure can result in several unfavorable effects such as time over run, cost over-run, tarnishing the image and credibility of the project team, locking up valuable human and other resources, that could have been gainfully utilized elsewhere, and stress on the project personnel.

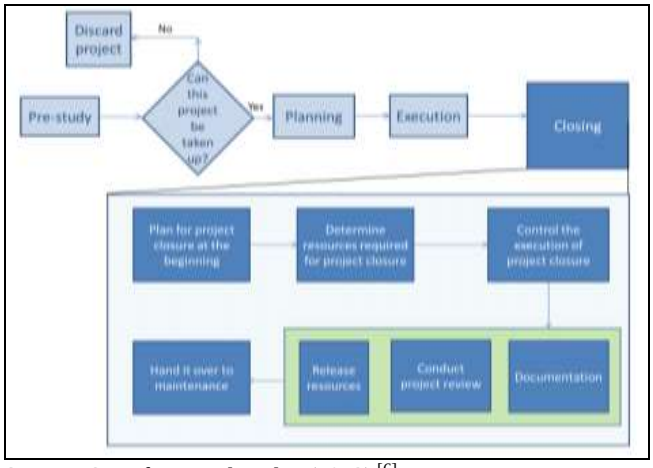
Once the building construction project is sufficiently complete, the contractor will request the architect to conduct a substantial completion inspection to confirm that the work is complete in most respects. By doing so, the contractor implies that the work is complete enough for the owner to occupy the facility and start using it, notwithstanding the fact that there might be cosmetic and minor items yet to be completed. The contractor's request for substantial completion inspection by the architect may include a list of incomplete corrective portions of the work, referred to as the punch list. The punch list, which is prepared by the contractor, is used by the architect as a checklist to review all work, not merely the incomplete portions of the work. If the architect's inspection discloses incomplete items not included in the contractor's punch list, they are added to the list by the architect. The substantial completion inspection is also conducted by the architect's consultants, either with the architect or separately. Incomplete items discovered by them are also added to the list. If the additional items are excessive, the architect may ask the contractor to complete the selected items before rescheduling substantial completion inspection.

The involvement of all stakeholders is very important in the last stage. Often the closure of a project is underestimated. There is not enough time invested in the actual closing of a project or it could be that the project is prematurely closed by a manager (Havila, Medlin, and Salmi, 2013) [9]. Availability of project documentation meets the criteria of project close-out process. Historic project data is an important source of information to help improve future projects. All records, both electronic and hard copy should be stored according to record retention guidelines (Parson, 2005). The technical records will be turned over to the personnel responsible for maintenance and operating of the system or program after it has been deployed. The project archive includes a description of the files being stored, the application used to create the archived materials, the location where they are stored, and point of contact for further information (Guyer, 2011). Key among the contractor-related documents archived include those of internal communication, minutes of meetings, progress reports and contract documents (Rohaniyati, 2009) [16].

After the certificate of final completion, the contractor is no longer liable for the maintenance, utility costs, insurance, and security of the project. These responsibilities and liabilities transfer to the owner.

The model in Figure 1 is a graphical illustration of the lifecycle of the project closure stage explained more explicitly. The project goes through certain stages while

transitioning from the start to handing it over to the maintenance. The model has a pre-study that has been conducted at the very first stage. The pre-study is followed by a decision point where it is decided to go on with the project or not.



***Source*:** Gustafsson and Yadav (2013) [6]

Fig 1: Project Closure Explained

Gustafsson and Yadav (2013) [6] postulate that the planning of the project closure needs to address the resources that would be required during the closing phase. And then the project manager would have to keep a track of the progress of this closing phase. The activities related to the documentation, project review and releasing the resources can be done in the order suitable for the project. Hence these three activities have been grouped together in the Figure 1. Once all the activities are done and the end results as per the agreed requirements, then the project can be handed over to the maintenance team. To have a good control it is also a good idea to keep the project separated into pieces where it is easier to keep track of what is happening. The closing phase will get more controlled and there will be less questions coming up from both maintenance and user if having straight answers. When the project comes to an end and the responsibility has been given to someone that hands it over to maintenance or makes the transition, the group should be dissolved to get back to normal duties or to start another project. When releasing resources and people the manager should give feedback to the people involved.

The people that will be responsible for the project in the closure part still have some work to do. As the team gets smaller the documentation needs to get started and sorted out. Gustafsson and Yadav (2013) [6] further posit that it is important to have the requirements, positives and negatives of the project to send with the user or maintenance. They can get a better picture on what has been done during the project as well as what can be done if something happens. Documentation is to learn and to have something more to hand over when the project has ended. Project reviews are intended to find answers to questions such as whether the project was completed in time and within budget, what benefits can be reaped for future projects, was the result of good quality, are there any further improvements that can be done, how was the performance of the team, and, did the tools used during the project help. Last stage is project closure. Here the resources connected to the closure also dissolves. The system or product should be done and accepted by the maintenance or user in this case.

2.2 Quality of Building Construction Projects

Recent publications on construction quality management highlight the important activities that should be performed in relation to the application of an effective quality management system. According to Rumane (2011) [17], a construction company needs to demonstrate its ability to consistently provide products that meet or exceed customer expectations and satisfaction, while also adopting appropriate processes for the continued improvement of the QMS and related assurances of conformity to customer and applicable regulatory requirements.

Watson and Howarth (2011) [19] also emphasize that for ISO 9001 to remain a process-based system with heavy emphasis on compliance, an organization is required to rigorously conduct an assessment of organizational performance, set against a standard and leading to accreditation. Clearly, the context of an effective QMS implementation is to ensure that work is performed according to specifications, throughout the design and development phases, manufacturing and construction, and servicing, and also ensure that customers are satisfied with the resulting products and services (Beaumont 2006). Building construction projects stand to benefit from such a quality management system.

Building regulations and codes can help remove these hazards by ensuring that the correct principles and practices of structural stability and durability are adhered to. Even where a faulty structure has already been erected, it is possible, through certain provisions in codes and regulations, to rectify the error and, thus, prevent a potential calamity.

3. Research Methodology

Pragmatic paradigm was used as it fits well in mixed methods research. Johnson and Onwuegbuzie (2004) formally define mixed methods research as the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study.

The research designs used in this study were descriptive survey design and correlational research design. The choice of these two research designs was informed by the fact that descriptive and inferential data analysis are required in this study. Shield and Rangarjan (2013) [18] indicate that descriptive survey is used to describe characteristics of a population or a phenomenon being studied. According to Key (1997) [12] the descriptive design is used to obtain information concerning the current status of the phenomena to describe "what exists" with respect to variables or conditions in a situation. Creswell (2012) [2] indicates that correlational research design is the measurement of two or more factors to determine or estimate the extent to which the values for the factors are related or change in an identifiable pattern. Since in this study both the causal effects of predictor variables and influence of a moderated combination of predictor variables on the dependent variable is desired, then both descriptive research design and correlational research design were found to be the most suitable for the study.

The target population was all the 228 NCA1, 170 NCA2, 188 NCA3, 497 NCA4, 421 NCA5, 632 NCA6, 682 NCA7 and 561 NCA8 registered contractors, giving a total of 3379

contractors. The target population was therefore all the 228 NCA1, 170 NCA2, 188 NCA3, 497 NCA4, 421 NCA5, 632 NCA6, 682 NCA7 and 561 NCA8 registered contractors, giving a total of 3379 contractors.

Stratified random sampling was thereafter employed to obtain individual respondents for the study. For the purpose of this study a census was used in three categories of the target population, namely, the NCA management, NBI management and the consultants.

The researcher used questionnaires for all the contractors and consultants and interview guides for representatives of NCA and NBI management.

Data collection from the contracting and consulting firms was done with the aid of research assistants. This approach was hoped to improve the rate of return of the questionnaires. Four research assistants were engaged. Each of the research assistants was assigned several engineering firms. Prior to deploying the research assistants for field work, the researcher trained the research assistants on research ethics as well as on the items in the research instruments to the extent that they can comfortably and independently clarify queries raised by respondents. A follow up time schedule was agreed upon and drawn between the researcher and the research assistants to guide supervision of the research progress. The research assistants were also equipped with a copy of the cover letter permitting them to collect data on behalf of the researcher.

4. Findings

The researcher collected data from a total of 288 respondents which consisted of 67 consultants, 17 NCA and 12 NBI officers in the management teams and 192 NCAs. Questionnaires were sent to all the 288 respondents out of which 222 questionnaires were filled and returned representing a response rate of seventy-seven point one per cent (77.1%). This response rate was considered adequate for analysis. According to Awino (2011), a response rate of 65 percent is acceptable for such studies. Out of 132 of the respondents, 66.7% indicated that they were male, while 33.3% they were female. This implies that majority of the respondents were male indicating a gender disparity in the construction industry towards females.

Various assumptions were made about variables during statistical tests. This was to ensure that the findings were worth using in decision-making. Failure to meet these assumptions would lead to Type I and Type II errors. In this study, normality was tested using Kolmogorov-Smirnov Test and the Shapiro-Wilk Test. The normality of the variables was also done and the study determined that all the variables had a fairly good fit in the normal distribution.

The weighting criteria of responses of Likert –type data assumed an equidistance of 0.8 whereby Strongly Disagree (SD) $1<SD<1.8$; Disagree (D) $1.8<D<2.6$; Neutral (N) $2.6<N<3.4$; Agree (A) $3.4<A<4.2$; and Strongly Agree (SA) $4.2<SA<5.0$. Theoretical literature linked ethical concerns in contract negotiation with quality of building projects.

Descriptive Analysis of Influence of Project Closure on Quality of Residential Buildings Construction Projects

This section presents findings on project closure of residential buildings construction projects. Both theoretical and empirical review indicated that project closure influence quality of residential buildings construction projects. Respondents were asked to indicate the extent to which they were in agreement with statements regarding project closure of residential buildings construction projects. Several questions were developed to measure the extent of this relationship.

The researcher sought to establish the extent to which all key stakeholders give their approval for project closure to occur. The mean score was 4.5818 while the standard deviation was 0.2943. This result indicates that the majority of the respondents strongly agreed that all key stakeholders give their approval for project closure to occur. This suggests that project closure occurs with the knowledge of all key stakeholders who are actively involved in approving the project. All project parties should be made aware of the pending closeout and be involved in the approval of project closure. The project owner together with the contractor, major subcontractors and consulting engineer should meet to assess the completeness and quality parameters before project closure occurs. This agrees with the views of Havila *et al* (2013) [8] who stated that the involvement of all stakeholders is very important in the last stage. Any omissions and errors observed are noted down in form of punch holes and the contractors is obliged to work on them before receiving his final payment.

Medlin and Salmi (2013) [8] point out that closing the project does not find a lot of presence in the project management literature and that fewer than 5% pages in a typical literature artefact discuss project closure requirements. Not all the projects undergo a smooth journey culminating in a successful end and some of the projects need to be terminated even before they have accomplished the planned goals and objectives (Havila, *et al*., 2013) [8]. Project completion inspection is important and should be planned for as part of the project closure processes.

Respondents were asked to indicate the extent to which all project closure documents are filled-in as project closure occurs. The mean score was 4.4828 while the standard deviation was 0.3280. This result indicates that the majority of the respondents strongly agreed that all project closure documents are filled-in as project closure occurs. The status of all work orders should be filled-in as project closure occurs. Stakeholders should also indicate their approval of the project and any remaining materials on site should be documented. This concurs with the views of Parson (2005) who pointed out that availability of project documentation meets the criteria of project close-out process, as the data documented is an important source of information to help improve future projects.

Availability of project inspection report is crucial at the closure of the project. In this regard, the researcher sought to establish the extent to which all project inspection documents are filled-in and finalized as project closure occurs. The mean score was 4.7535 while the standard deviation was 0.0963. This result indicates that the majority of the respondents strongly agreed that all project inspection documents are filled-in and finalized as project closure occurs. This suggests that a formal procedure to terminate the contract is followed at project closure where an inspection is done to verify that the buildings are complete and safe for occupation and a report written thereof. Rohaniyati, (2009) [16] states that project closure involves verification by the client, contractor and consultant that all activities have been finalized; documentation has been done and storing relevant information. It also entails verifying that the project has addressed the terms and conditions of

the contracts, finalizing of exit criteria for contract termination, validating exit criteria and formally closing out all contracts associated with the completed project (Guyer, 2011). The purpose of project close-out is to assess the project, ensure completion, and derive any lessons learned and best practices to be applied to future projects.

The study findings are as illustrated in the table.

Descriptive Analysis of Application of Project Closure Criteria

Table 1

	n	Mean	S. D	CV
a. Project closure occurs when all parties have been made aware of the pending closeout	198	4.5081	0.4642	0.3120
b. Project closure occurs when all key stakeholders have given their approval	198	4.5818	0.2943	0.4128
c. Project closure occurs when all project closure documents have been filled-in	198	4.4828	0.3280	0.5205
d. Project closure occurs when all activities in the project plan have been completed	198	4.3495	0.4276	0.4758
e. Project closure occurs when all work orders have been completed	198	4.5081	0.3221	0.3993
f. Project closure occurs when all outstanding commitments have been resolved	198	4.2424	0.4903	0.3962
g. Project closure occurs when the client or customer has accepted the final product	198	4.4091	0.4279	0.3813
h. Project closure occurs when all contracts have been completed	198	4.5949	0.3278	0.4150
i. Project closure occurs when agreement has been reached with the client on the disposition of any remaining deliverables	198	3.1566	0.5617	0.2604
j. Project closure occurs when all project inspection documents have been filled-in and finalized.	198	4.7535	0.0963	0.5915
Composite Results	198	4.4687	0.2740	0.4165

The composite mean score for this section stands at 4.4687, the standard deviation at 0.2740 and the coefficient of variation at 0.4165. This reveals that on average the respondents strongly agreed with application of project closure criteria. Project closure is not done haphazardly. All concerned parties are involved to give their approval in line with the work plan. The fact that sometimes errors later manifest themselves through major cracks and collapse of buildings suggests that though stakeholders are involved to approve the completed project, this is not done in a systematic manner. This then becomes an issue of ethical concern.

4.8.2 Inferential Analysis of Influence of Project Closure on Quality of Residential Buildings Construction Projects

The literature that was reviewed in this study as well as theoretical reasoning associated project closure with quality of residential buildings. Indicators of project closure in the study were level of stakeholder involvement, availability of project inspection report, status of project inspection documentation and sustainability plan. Quality of residential building construction projects on the other hand was indicated by status of project audit, adequacy of minutes of quality meetings, status of testing reports, availability of check sheets and status of approval documents. Indications from both the theoretical and empirical literature pointed to a positive significant influence between project closure and quality of residential buildings construction projects.

Correlation Analysis

Pearson Product Moment correlation coefficient was used to assess the strength and direction of the relationship between project closure and quality of residential buildings construction projects.

The Pearson's Product Moment Correlation coefficients showed the value of r = 0.352 Shirley *et al*. (2005) indicates that for a weak correlation, "r" ranges from + 0.10 to + 0.29; in a moderate correlation, "r" ranges between + 0.30 and + 0.49; while in a strong correlation, "r" ranges from +0.5 and + 1.0. The positive or negative sign points to the direction of the relationship. It can therefore be argued that for r > 0.5, there was a moderate correlation between the two variables under investigation. The results are shown in the table.

Correlation Results for Project Closure

Table 2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.352[a]	.124	.120	.39070
a. Predictors: (Constant), project closure				

Since r = 0.352 in this case, then there was a moderate positive significant correlation between project closure and quality of residential buildings. In this case, the adjusted R-squared is 0.120. This means that project closure variable explains 12% variations in the dependent variable (quality of residential buildings). This means that there might be many factors that can explain variations in quality. Hence, 88% of the variation in quality cannot be explained by project closure. Therefore, other variables could be having more influence on quality.

Test of Hypothesis

Analysis of Variance (ANOVA) was used to test the hypothesis. The study calculated the ANOVA coefficient

between the independent variable, project closure and the dependent variable, quality of residential building projects. The significant level of testing the hypothesis was 0.05.
Hypothesis four that the study tested was:
H_0: There is no significant influence of project closure on quality of residential buildings
The table shows results of the relationship between project closure and quality of residential buildings.

ANOVA[a] Results for Project Closure

Table 3

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	5.358	1	5.358	35.100	.000[b]
Residual	33.813	221	.153		
Total	39.171	222			
a. Dependent Variable: quality of residential buildings construction projects					
b. Predictors: (Constant), project closure					

From the table, F value is 35.100 and P value is 0.000. At 0.05 level of significance and 95% level of confidence this is statistically significant as the P-Value is lower than 0.05. The study therefore rejected the null hypothesis meaning that there was a significant relationship between project closure and quality of residential buildings in Nairobi County.
De (2001) [3] pointed out that improper handling of project closure can result in several unfavorable effects such as time over run, cost over-run, tarnishing the image and credibility of the project team, locking up valuable human and other resources, that could have been gainfully utilized elsewhere, and stress on the project personnel. The project closure is foreseeable but how it is handled and when it is handled have a huge impact on the success of the project (Hormozi *et al*., 2000) [10]. Quality of the project therefore thrives on ethical behavior of the practitioners at project closure phase.

Regression Modelling
Linear regression was used for modelling the relationship between project closure and quality of residential buildings.
Regression model was represented as
$Y = a + \beta X_4 + \varepsilon$
Quality of residential buildings construction projects = f (Project closure)
The table shows the regression model summary of analysis of project closure on quality of residential buildings

Coefficients for Project closure

Table 4

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.591	.152		23.572	.000
Project closure	.216	.036	.352	5.925	.000
a. Dependent Variable: Quality of residential buildings construction projects					

Based on the analysis, Y intercept was 3.591 while coefficient of the independent variable (Project closure) was 0.216. Therefore, by substituting the beta value and the constant term, the proceeding regression model was:
$Y = 3.591 + 0.216X_4 + \varepsilon$

The coefficient of project closure (X_4) of 0.216 refers to the elasticity of quality of residential buildings due to changes in project closure. The coefficient of 0.216 implies that if project closure requirements increase by 100 percent, quality will improve by 21.6 percent.
This agrees with a study by Guyer, (2011) [7] who observed that quality of a construction project is determined by the procedural project closure. Once the building construction project is sufficiently complete, the contractor will request the architect to conduct a substantial completion inspection to confirm that the work is complete in most respects. By doing so, the contractor implies that the work is complete enough for the owner to occupy the facility and start using it, notwithstanding the fact that there might be cosmetic and minor items yet to be completed.
The contractor's request for substantial completion inspection by the architect may include a list of incomplete corrective portions of the work, referred to as the punch list (Havila, Medlin, and Salmi, 2013) [9]. The punch list, which is prepared by the contractor, is used by the architect as a checklist to review all work, not merely the incomplete portions of the work. If the architect's inspection discloses incomplete items not included in the contractor's punch list, they are added to the list by the architect. The substantial completion inspection is also conducted by the architect's consultants, either with the architect or separately. Incomplete items discovered by them are also added to the list. If the additional items are excessive, the architect may ask the contractor to complete the selected items before rescheduling substantial completion inspection.

5. Conclusion
On project closure of residential building construction projects in Nairobi County, the study concluded that project closure occurs when all contracts have been completed. Project closure involves verification by the client, contractor and consultant that all activities have been finalized; documentation has been done and storing relevant information. It also entails verifying that the project has addressed the terms and conditions of the contracts, finalizing of exit criteria for contract termination, validating exit criteria and formally closing out all contracts associated with the completed project. The researcher concludes that project close-out procedure is necessary in order to assess the project, ensure completion, and derive any lessons learned and best practices to be applied to future projects.

6. Recommendations
The findings revealed that project closure influences quality of residential building construction projects in Nairobi County. The study recommends
1. That a project audit should be done after the completion of all project phases. This aims at establishing whether the project goal was accomplished and whether the activities were conducted in the right manner. This would also establish whether the resources were utilized effectively and if there was any wastage.
2. The project manager also needs to determine the factors that could affect the project closure. This can best be done through comprehensive planning which is key in order to be well prepared for handling project closure and for any surprises that come up during the closing phase.
3. Regular meetings with the project team and project

stakeholders and checklists are paramount for project manager to keep track of the closing phase.
4. During the project closure the project manager should ensure that reviews are conducted & documented.

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