

## **Factors Leading To Abandonment of Public Building Infrastructure in Malawi: The Case of Lilongwe District Council**

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### **ABSTRACT**

Building infrastructure projects in Malawi's Local Authorities are unreasonably delayed and ultimately abandoned. The purpose of this study was to investigate the factors leading to the abandonment of public building infrastructure projects in Malawi, under the health and police sectors in Lilongwe District Council. Sixty-three (63) project abandonment sub attributes were identified through detailed literature review. The study categorized the project abandonment sub attributes into eight (8) main attributes of financial, procurement, contract management, planning, design, site, workmanship and/or community involvement related sub attributes. The study analyzed and evaluated these attributes and sub attributes in order of importance and finally, analyzed and compared the main attributes of project abandonment in the police and health sectors of Lilongwe District Council.

14 projects (8 under police sector and 6 under health sector) were focused on which were still incomplete and or have never been operational since they were commenced. Responses from the project stakeholders (those who were directly involved in the implementation) were collected through a survey questionnaire. A total of 117 respondents participated in the survey. Data analysis was done statistically by Microsoft Excel and SPSS. The RIIs were computed using the excel sheet for ranking and determining the level of importance of project abandonment attributes and sub-attributes. Cronbach's Alpha coefficients were computed using SPSS to see how well the sub-attributes within each group measure a common construct of project abandonment attribute; while Microsoft Excel was used to compute Spearman's Correlations to measure the similarity in ranking of sub-attributes between two different groups of respondents.

Findings of the research reveal that financial related attribute and contract management related attribute being the highest ranked contributed most to the project abandonment in police and health sectors respectively. While results show these variations across the sectors, it has been observed with interest that projects under Police were funded by Malawi Government and projects under health were funded by cooperating partners.

The study concludes that despite the fact that financial related attribute and contract management attribute are key to building infrastructure abandonment as evidenced in this case, these factors are not mutually exclusive. It is therefore recommended that a further investigative study on these two highly ranked attributes could be helpful to establish what and how is it that is not done correctly and propose relevant solutions to the problem of building infrastructure abandonment in police and health sectors of Lilongwe District Council.

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### **I. INTRODUCTION**

#### **Abandonment of Infrastructure Projects**

Doraisamy *et al* (2014) defined an abandoned project in two different ways, namely: 1) when a progress of a certain work faces too many problems and seems to be impossible to continue further causing it to stop completely or 2) when a project has been started at an earlier date, but for some reasons has been stopped. Such abandonments are just not limited to buildings alone, but there are also roads, industrial structures, bridges, factories, dams, and electricity and communication projects. A project is considered abandoned in Malaysia based on five conditions, namely; 1) if there has been no substantial activity on site for six consecutive months, or 2) if it is involved in a winding-up petition registered at the High Court, or 3) if it is under receivership, or 4) if the developer has informed the Housing Controller in writing of his inability to complete the project, or 5) if the project has been certified to be abandoned by the Minister (MHLG, 2011). Olusegun and Micheal (2011) define project abandonment as to stop doing a project because there are too many problems and it is impossible to continue. The effects of abandonment of projects are disappointment of the users, low living standards,

unemployment, and wastage in resources and decrease in revenue to project owners. The choice of studies, largely from, Africa provided an excellent comparison with countries with similar characteristics.

Hence such countries have similar causes and mitigation measures. Studies revealed that there are abandoned projects in other countries such as Malaysia, Nigeria, Ghana, Uganda, Swaziland, Zambia, Botswana, South Africa, Tanzania, and indeed Malawi. These studies are directly related to this study in that they deal with housing construction projects as well as general construction similar to Malawi being a developing country.

#### **Research Justification**

In the context of Malawi and this research study there is no law in relation to declaring a project abandoned. However, for the purposes of this study, it is assumed that a project is abandoned if there is no activity on site for at least six consecutive months and that the project infrastructure is not operational despite being structurally completed.

Several abandoned projects exist under the Constituency Development Fund in various Malawi District Councils due to a number of factors (LL DC CDF Report, 2015). One of these district councils with such projects is the Lilongwe District Council. The abandonment of construction projects is not unique to Malawi as it is also present in other countries, e.g. United States (Hicks, 2008), and Spain (Carrero *et al.*, 2009). In Malawi, this problem is also not only in Lilongwe District Council as many district councils experience the same problem. In Chikwawa District Council, for example, 71% of the teachers houses constructed under Local Development Fund in 2012 were uncompleted or abandoned due to mismanagement (MHRYN Report, 2014). However, in Lilongwe District Council this problem is interesting in that it is mostly health and police infrastructure projects that are to a greater extent abandoned especially at an operational stage. From period 2006 - 2012 there were 8 police office blocks and 6 health infrastructure projects in Lilongwe District Council which were never completed (LL DC Infrastructure Projects Progress Report, 2015). The economic loss suffered by the district council and the opportunity cost incurred by the beneficiary community could very high and should not be underrated. This study therefore focused on investigating the factors that are leading to this interesting scenario of very high project abandonment in Police and Health sectors of Lilongwe District Council so that further studies could be done to find solutions of solving the problem.

#### **Research Objectives**

The main objective of the study is to investigate the issues that lead to abandonment of infrastructure projects under the health and police sectors in Lilongwe District Council, Malawi and specifically to identify the attributes and sub-attributes that cause project abandonment in the Police and Health sectors; Analyze and evaluate the attributes and sub-attributes that cause project abandonment in the Police and Health sectors and Analyze and compare the main causes of project abandonment in the Police and Health sectors

## **II. Literature review**

There are many studies that have been carried out before suggesting the possible causes of project delay and abandonment. Abisuga (2014), Owolabi *et al.* (2014), Tom (2013), and Chirwa *et al.* (2011) identified the following factors among many as leading to either infrastructure project abandonment or failure: design, contract, and procurement issues; contract management, site, financial, community involvement and workmanship issues and bad decisions. Kikwasi (2012) and Alaghbari *et al.* (2007) found out that delays in payment to contractors and funding problems were the causes of project construction completion delays as a result of time overrun, cost overrun, negative social impact, idling resources and disputes which would eventually lead to delays and disruptions and effects that put construction project at risk of abandonment. Fugar and Agyakwah-Baah (2010) on the other hand argue that financial factors include honouring certificates, underestimation of the cost of the project, underestimation of the complexity of project, difficulty in accessing bank credit, and fluctuation of prices/rising cost of materials. Sunday and Afolarin (2013) argues that key stakeholders in project management are sources of errors in construction documents arising from inadequate documentation, poor communication, negligence and changes to design specifications among others. The effects of these factors on construction projects include project abandonment, delays, rework, dissatisfaction by project owners and lack of confidence in project consultants.

The findings of a study by Thwala and Aigvabvoa (2011) reveal that citizens need to build capacity and resources in order to achieve community participation in planning and project development; that citizen's participation in community development projects does not usually occur by chance, but because certain principles are observed at an acceptable level to the participants and to other stakeholders, and that citizens will voluntarily participate in a community activity if they could derive benefit to themselves and the entire community. Studies by Thwala and Mvubu (2008) and Eshofonie (2008) revealed inadequate managerial skills as deficiencies leading to failure of small and medium size construction projects in Swaziland. Kesavan *et al.*

(2015); Akinsiku and Akinsulire (2012); Olusegun and Micheal (2011); Mahamid *et al.*(2011); Ameh and Osegbo (2011); and Sambasivan and Soon (2007) all argued that construction projects are abandoned due to inadequate project planning and incompetent project managers which adversely affects the timely delivery of construction projects and may lead to occurrences of delays in construction. A similar study by Alinaitwe *et al.* (2013) in Uganda found that poor project monitoring and control can cause of construction delays and overruns. Poor workmanship leads to unnecessary delays and wastage of resources leading to either project failure or abandonment while good workmanship on the other hand in project construction leads to a reduction of unnecessary delays due to rework as a result of construction errors; speeding up the authorities (client) to effect timely payments and saving of the resources due to use of the right skills in the project as Enshassi *et al.*(2009) also argues that poor project workmanship as a result of unavailability of highly experienced and qualified personnel. According to Amade (2015) failure and abandonment of public sector construction projects in Nigeria, may be due to lack detailed and comprehensive designs by the contractors, while Abisuga *et al* (2014) reported that poor design causes project construction delay. Mukuka, Aigbavboa and Thwala (2012) did a study in Zambia found out that delay in approving major changes in the scope of work delays in producing design documents and late design review and approval (Pourrostam and Ismail, 2011) affects the projects delivery time wise and Olusegun and Micheal (2011) says that construction projects are sometimes abandoned due to variation of project scope, wrong estimates, and faulty designs.

The study identified eight (8) study attributes and sixty-three (63) study sub-attributes which are summarized in Table 1 below:

**Table 1: Issues Contributing to Abandonment of Construction Projects**

*Factors Leading To Abandonment of Public Building Infrastructure In Malawi: The Case ..*

No.	Categories	Issues
1	Design issues	Difficulty in design; ambiguities or mistakes in scope of work, specifications or drawings; conflicts between drawing and specification; misinterpretation of drawing and specifications; and improper construction methods
2	Project planning	Inappropriate risk allocation among project team members; Inadequate project feasibility studies, Lack of appropriate dispute resolution methods, Inappropriate project planning and scheduling, Involvement of large number of project participants, Unclear lines of responsibilities, Undefined objectives and goals, Unrealistic time frame and tasks, Unfavourable government policy, Inappropriate contract arrangement
3	Contract management issues	Bureaucracy and red tape within the project, Poor relationship among project team members, Poor quality control, Communication and coordination problems, Bad decisions, Litigation, Poor contract administration, Material management problem, Lack of prioritisation and project portfolio management, Lack of management commitment, Competing priorities, Business politics, Lack of organisational support, Ignoring project warning signs, and Project control problems
4	Procurement issues	Faulty tender process, Problems related to variation orders, Inappropriate pricing/incentives of services rendered by contractors, and Unavailability of materials and equipment,
5	Site issues	Site acquisition problems, Unexpected location difficulty, Shortage of site workers, Lack of motivation to site workers, Poor safety management on site, Relationship between site worker and contractor, Poor site management, Site conditions, Adverse weather conditions, and Industrial action
6	Financial issues	Financial difficulties faced by contractors, Financial difficulties faced by owners, Delays in interim payment, Unexpected economic conditions, Inappropriate financing, Under-estimation of project cost, and Fraudulent practices and briberies
7	Community Involvement	Cultural clash among parties in project, Lack of cooperation from local authorities, Vandalism of works –in progress or finished, Not meeting end user expectation, Lack of user input, Inexperienced client/owner, and Negative impact of project to society/environment
8	Workmanship	Rework due to errors during construction, Unskilled/incompetent site workers, Incompetent contractors/ subcontractors, Incompetent contractors/subcontractors, Incompetent consultants, and Low productivity of labour

### III. METHODOLOGY

#### Study Sites

The research study was conducted in the 9 Traditional Authorities of the 18 in Lilongwe District, Malawi. The Police and Health sectors were the focus of this study due to their higher degree of project abandonment status than the other sectors and therefore 14 project sites were targeted for investigation by the study.

#### Sampling Procedure

The survey targeted all construction projects in the health and police sectors that started from 2006 and were still not completed and or not operational by the year 2015. See Table 3 for project status by funding agency. A questionnaire survey was administered to a total of 10 people per study site, targeting five (5) from the project beneficiary community (four from project management committee and one community leader (chief) from around the project area, one (1) government official of the relevant sector from around the project area, One site worker who was employed locally by the contractor during implementation, One officer representing the company that constructed the project.

#### Data Analysis

Factor analysis with Cronbach's  $\alpha$  reliability analysis was used (Cronbach alpha values derived from SPSS) to analyze the data from questionnaire survey as a way of checking the groups extracted from factor analysis to see how well the variables within each group measure a common construct. The Spearman's Ranking Correlation Coefficient is used to measure the similarity in ranking a list of items between two different groups of respondents (Field, 2005; Naoum, 2007), i.e. the ranking of the 63 potential causes of abandoned construction

projects by the different questionnaire responding groups. The Relative Importance Index (RII) is a favorite method of ranking a list of items (Ibinu & Jagboro, 2002; Odeh & Battauneh, 2002) and the values of which were derived from Microsoft excel. The respondents were asked to tick in the appropriate columns to indicate how much they agree that the factors are causes of abandoned construction projects on a five point Likert Scale, i.e. Strongly disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly agree (5).

#### IV. RESULTS AND DISCUSSIONS

One hundred forty (140) copies of the questionnaire were distributed out of which ninety-nine (99) were completed and received. This represents 71% response rate. This response rate is above 50% response rate in sample size determination, overall results represent more than 50% of the responses of the target population.

Using formula for RII according to Muhwezi and Otim (2014) who conducted an assessment on the factors causing building construction delays in Uganda to compute the RII values; this formula is:

$$RII = \frac{\sum W}{A * N} \quad (0 \leq RII \leq 1)$$

Where  $W$  - is the weight given to each factor by the respondents and ranges from 1 to 5, (where "1" is "strongly disagree" and "5" is "strongly agree");  $A$  - is the highest weight (i.e. 5 in this case) and;  $N$  - is the total number of respondents. The RII ranges between 0 and 1. If a factor has RII of closer to 1 then it means that the factor is ranked highly in the hierarchy of importance of determining project abandonment compared to a factor that has a lower index (RII of closer to zero).

##### 4.3.1 Rank of Attributes for Health and Police Sectors Combined

After computing the RII of the 63 sub attributes and ranking them, further analysis by attributes based on the health and police sectors combined. Through this analysis and without considering a sector the highest mean RII was determined for the most important issue leading to project abandonment in the health and police sectors in Lilongwe District Council, Financial related factor was ranked first with RII of 0.5149 as presented in Table 2 below for the variables-Health and Police Sectors Combined.

**Table2: RII for Attributes-Health and Police Sectors Combined**

Category	Average RII	Rank
Financial	0.5149	1
Procurement	0.4838	2
Contract management	0.4674	3
Community involvement	0.4654	4
Project planning	0.4556	5
Workmanship	0.4127	6
Design	0.3771	7
Site	0.3754	8

This result agrees with Frimpong and Oluwoye (2003), and Alaghbari et al. (2007); and Assaf et al. (1995) who found that financial problems are the main factors that cause delays and later abandonment of ground water projects in Ghana, and causing delays in building construction projects in Malaysia respectively.

### Health Sector

The results based on the RII ranking of the 63 sub attributes in the health sector only. Lack of prioritization and project portfolio management rank the highest in project abandonment at 0.6487. The second sub-attribute is business politics with RII of 0.5946. These results for the health sector are different from the results obtained if two sectors combine, where vandalism ranked highly in the former case. In the combined analysis business politics ranked number four in the order of importance with RII of 0.5754 which was lower than the RII in the analysis of the health sector separately. This result shows us that the variable business politics is much more critical in determination of project abandonment in the health sector than for all the two sectors combined. In the analysis the study found that the variable litigation was still less in importance in determining project abandonment even for the health sector separated.

### RII based on Category of sub attributes-Health Sector

Analysis of the results under health sector based on the categories revealed that contract management related sub attributes ranked highest with an average RII of 0.4728 followed by project planning related sub attributes with average RII 0.40. Ranking of categories under health sector are as summarized in Table 3below.

**Table 1: RII Based on Attributes-Health Sector**

Category	Average RII	RANK
Contract management	0.4727	1
Project planning	0.40	2
Financial	0.396	3
Procurement	0.3939	4
Community involvement	0.3938	5
Workmanship	0.392	6
Design related	0.378	7
Site related	0.30	8

### RII based on Category of sub attributes-Police Sector

After analyzing all the attributes in the same analysis, the eight categories were analyzed and ranked in the same way as health sector and the results for police sector are as summarized in the Table 4 below:

**Table 4: RIIs for Attributes-Police Sector**

Category	Average RII	RANK
Financial	0.5696	1
Procurement	0.556	2
Community involvement	0.5138	3
Contract management	0.4643	4
Project planning	0.4532	5
Site issues	0.4074	6
Workmanship	0.3845	7
Design issues	0.3707	8

### Financial related sub attributes-Police Sector

Under the police sector, this category had the highest ranking in importance based on the RII with an average RII of 0.5696. For seven sub- attributes, the variable ranking highly in this category is financial difficulties faced by the owner with an RII of 0.6613. The other sub- attributes include; delays in interim payments with an RII of 0.6323, financial difficulties faced by contractors with an RII of 0.6258, inappropriate financing with an RII of 0.6129, underestimation of project costs with an RII of 0.5387, unexpected economic

conditions with an RII of 0.5258 and fraudulent practices and bribes with an RII of 0.3903. Under the police sector fraudulent practices and bribes have a lower rank of importance in determining abandonment of a project compared to the health sector. It was interesting to note that financial related sub attributes were also ranked number one in the analysis of the categories for police and health sectors combined. It is also interestingly observed that funding for the police projects under study in this research is from government.

## **V. Discussion of Results**

As has been analyzed in this section, when the analysis was done for the two combined sectors, the financial related issues ranked highly in importance and this was followed by procurement, contract management, community involvement, project planning, workmanship, site and design issues respectively. When the analysis was done separately for the police sector and health sector, ranking of the categories was found to be different. In the police sector, financial related issues maintained the highest rank in the hierarchy of importance followed by procurement, community involvement, contract management project planning, site, workmanship and design related sub attributes respectively. In the health sector contract management was found to rank highly in the hierarchy of importance followed by project planning, financial, procurement, community involvement, and workmanship, design, and site subattributes respectively. Based on this analysis it can be concluded that some sub attributes are critical in determining the abandonment of projects in one sector and yet the same factors can be less critical in another sector of the economy.

Few studies seem to have been conducted in Malawi on the causes or attributes behind project abandonment. The only study to that effect was one done by Chirwa, Samwinga and Shakantu (2011) who looked at 'the timely project delivery: a case study of Malawian educational projects' where the focus was the education sector only. Therefore as far as this study is concerned it has not been carried out in Malawi, hence it is a contribution to the gap in research as well as literature as far as studies of project abandonment attributes are concerned. According to the study, the top ten factors that cause abandonment of projects in the health and police sector in Lilongwe District Council ranked by the relative importance index (RII) are vandalism of works- in progress or finished, not meeting end user expectations, unavailability of materials and equipment, Business politics, financial difficulties faced by the owner, financial difficulties faced by the contractor, lack of user input, inappropriate financing, unfavorable government policy and lack of appropriate dispute resolution methods. Some of these studies have been confirmed in the studies by Fugar and Agyakawah-Baah (2010) and Frimpong *et al.* (2003) in Ghana.

In this study financial attributes tend to top the hierarchy of importance in causing abandonment of projects in the police and health sector combined. These results are in line with what Muhwezi and Otim (2014) found in their study in Uganda about delays in building construction projects. The authors found that financial related sub attributes had RII of 0.923 rank of importance of factors determining project abandonment. To concur with Muhwezi and Otim (2014), Olesegun and Michael (2011) found that inadequate finance was among the top two highly ranked variables causing abandonment of public projects in Nigeria. The study by Olusegun and Michael (2011) found that inadequate finance had an RII of 0.988 which was seconded by financial sub attributes with inflation RII of 0.984, bankruptcy of contractor with an RII of 0.979. These results by Muhwezi and Otim (2014) and Olusegun and Michael (2011) are in line with the results obtained by the study especially in the analysis of the two sectors combined.

In Nigeria most project abandonment experienced were basically due to financial attributes from client (individual, corporate and government). The study findings by Abisuga, Amasu and Salvador (2014) confirm the findings found by the researcher in this study. The study ranked procurement related factors as second in hierarchy in determining project abandonment. The category as has been highlighted in chapter 4 had RII of 0.4839. This result of this study is quite similar with what other authors have found. For instance Muhwezi and Otim (2014) found that poor procurement of site materials had RII of 0.800. This was one of the variables that had a greater importance in determining the abandonment of projects in Lilongwe District Council. However the result of the study had a lower RII compared to the result by Muhwezi and Otim (2014).

The study ranked contract management on number three in the order of importance. The contract management related subattributes have not been analyzed by many authors in the literature. However the attributes relating to contract management are critical in determining project abandonment. This study found the contract management related attributes to have an RII of 0.4694. Murali and Yau (2007); and Aibinu and Jagboro (2002) in their study confirmed these findings which indicate that business politics, ignoring project warning signs, bureaucracy and red tape within the project, lack of prioritization and project portfolio management as some of the major factors determining the abandonment of public projects being implemented. When the study separated the two sectors to analyze them separately, the ranking of importance of the variables came out different as has been obtained from the results.

Looking at the health sector, contract management related issues turned to be the most important category in determining project abandonment in the health sector; this is different from the result obtained in the

combined analysis of police and health sector where financial issues were found to top the hierarchy. The difference in these findings might be due to the bureaucratic structure of the two sectors.

According to the police sector the category financial related factors was found to top the hierarchy of importance based on the RII just as was found in the analysis of the sectors combined. Although the two sectors are under the government's control, the initiation of projects in them is different. Most of the projects in the health sector are affected by government politics. Politicians most of the times take an initiative to put developmental projects in areas where they see that they will obtain more votes.

## VI. Research Conclusions

Project abandonment is as a result of extended delays and these delays are inevitable, Muhwezi (2014), however they can be avoided or minimized when their causes are effectively identified and analyzed. The main aim of this study was to investigate the factors leading to the abandonment of public building infrastructure in Malawi, using the police and health sectors of Lilongwe District Council as a case study.

A total of 63 project abandonment sub attributes were identified and categorized into eight main project abandonment attributes or factors of; financial, procurement, contract management, planning, design, site, workmanship and/or community involvement related attributes. The computed RIIs provided a benchmark for ranking all the sub attributes and attributes which consequently formed the basis determining the most significant and insignificant factors in the context of Lilongwe District Council ( Police and Health sectors), Results of the study indicate that financial related attribute with average  $RII = 0.6613$  and contract management related attribute with average  $RII = 0.4727$  are the highly ranked in project abandonment in police and health sectors respectively. However results analysis for the two sectors if combined it shows that financial related attribute has the highest rank with average  $RII = 0.5739$ . This therefore suggests that the importance of adequate and timely provision of financial resources in building construction project management cannot be overemphasized.

Adequate finance is the hub around which everything else revolves. Everybody and everything connected with construction is adversely affected by lack of sufficient cash flow. The project is not only abandoned but the workers plummet because of nonpayment of irregular payment of wages. In addition to the general outcome of financial related sub attributes being the major contributing factor to project abandonment, the analysis of the results shows that if analyzed separately between health and police sectors, the contributing factors to the abandonment of projects are different in terms of ranking. In Police, financial related issues remain the highest ranked while in health, contract management issues dominate. This suggests that the factors leading to the abandonment of projects in these two sectors analyzed separately might not be mutually exclusive since it clearly shows that financial related sub attributes in police sector are so significant that they influence the resultant analysis outcome for the two sectors if combined.

## Research Recommendations

Based on the study results the following recommendations are suggested;

- (i) The study being a case study only focused on two sectors, that is the health and police sectors so the results may not be externally generalized and thus future studies may consider the other sectors as well.
- (ii) Further to that the study was also a case study focusing on only one district council, the Lilongwe District Council whilst Malawi has about 28 district councils. Redoing the study must as well consider including all the district councils in Malawi to externally generalize the results.

## Suggestions for Further Research

Further research may be required on these two highly ranked project abandonment attributes of financial, contract management related sub-attributes to critically analyze them and find solutions to the associated problems.

## REFERENCES

- [1]. Abisunga, A., Amusu, O., & Salvador, K. (2014). Construction delay in Nigeria: A perception of indigenous and multinational construction firms. *Journal of Emerging Trends in Economics and Management Sciences*, 5(3), 371-378. URL:
- [2]. Aibinu, A.A., & Odeyinka, H.A. (2006). Construction delays and their causative factors in Nigeria. *Journal of Construction Engineering and Management*, 132(7), 667-677. URL: [http://dx.doi.org/10.1061/\(ASCE\)0733-9364\(2006\)132:7\(667\)](http://dx.doi.org/10.1061/(ASCE)0733-9364(2006)132:7(667))
- [3]. Aiyetan, A., Smallwood, J., & Shakantu, W. (2011). A systems thinking approach to eliminate delays on building construction projects in South Africa. *Journal of ActaStructilia*, 18(2):19-39. URL: <http://www.ajol.info>
- [4]. Alaghbari, W. E., Razali, A., Kadir, M., Salim, A., & Ernawati. (2007). Significant factors causing delay of building construction projects in Malaysia. *Journal of Engineering, Construction and Architectural Management*, 14(2): 192-206. DOI: <http://dx.doi.org/10.1108/09699980710731308>
- [5]. Alinaitwe, H., Apolot, R., & Tindiwensi, D. (2013). Investigation into the causes of delays and cost overruns in Uganda's public sector construction projects. *Journal of Construction in Developing Countries*, 18(2):33. URL: [www.mak.ac.ug/documents/Makfiles/aet2011/Apolot.pdf](http://www.mak.ac.ug/documents/Makfiles/aet2011/Apolot.pdf)

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- [6]. Amade, B.(2015).Factors for containing failure and abandonment of public sector construction projects in Nigeria. *Journal of Building Performance Simulation*, 6(1): 62-76. URL: <http://www.researchgate.net/publication/280805252>
- [7]. Ameh, O.J., & Osego, E.E.(2011). Study of relationship between time overrun and productivity on construction sites. *International Journal of Construction Supply Chain Management*, 1(1), 56-67.URL:[www.eajournals.org/.../Causes-of-Time-Overrun-In-Building-Projects-in-Nigeria-Contracting-and-Consulting-Perspectives.pdf](http://www.eajournals.org/.../Causes-of-Time-Overrun-In-Building-Projects-in-Nigeria-Contracting-and-Consulting-Perspectives.pdf)
- [8]. Bavani, M.(2009).Abandoned Jelatek fire station now an eyesore: The Star Online. URL: <http://thestar.com.my/metro/story.asp?file=/2009/6/2/central/4024468&sec=central>
- [9]. Bhattacharyay, B.N. (2009). Infrastructure development for ASEAN economic integration. Working Paper No 138, Tokyo: Asian Development Bank Institute.
- [10]. Button, K. (2002, March).Effective infrastructure policies to foster integrated economic development. Paper Presented at the Third African Development Forum, Addis Ababa.URL:[www.repository.uneca.org/bitstream/handle/10855/.../Bib-14487.pdf?...1](http://www.repository.uneca.org/bitstream/handle/10855/.../Bib-14487.pdf?...1)
- [11]. Calderón, C. (2009).Infrastructure and Growth in Africa: Policy Research Working Paper 4914. Washington, D.C.: World Bank.
- [12]. Carrero, R., Malvárez, G., Navas, F., & Tejada, M.(2009).Negative impacts of abandoned urbanization projects in the Spanish coast and its regulation in the law. *Journal of Coastal Research*, 56: 1120-1124. URL: [www.upo.es/.../1248694034129\\_negative\\_impacts\\_abandoned\\_building](http://www.upo.es/.../1248694034129_negative_impacts_abandoned_building)
- [13]. Cheong, E.Y.Y. (2012). Revival of abandoned housing projects. NST Online.URL: [www.nst.com.my/red/revival-of-abandoned-housingprojects1.152637?ModPagespeed=noscript](http://www.nst.com.my/red/revival-of-abandoned-housingprojects1.152637?ModPagespeed=noscript) [Accessed May 19, 2013].
- [14]. Chirwa, D., Samwina, V., & Shakantu, W. (2011).Timely project delivery: A case study of Malawian educational projects. Paper presented at the Sixth Built Environment Conference, Johannesburg, South Africa.URL:[www.nrl.northumbria.ac.uk/12153/](http://www.nrl.northumbria.ac.uk/12153/)
- [15]. Chiweza, A.L. (2010).A Review of the Malawi decentralization process.URL: <http://ilitonsefund.org/wp-content/uploads/2013/05>
- [16]. Devereux, S. & Macauslan, I. (2006, February). Review of social protection instruments in Malawi: A desk study for DFID Malawi, Sussex University: Institute of Development Studies.
- [17]. Dmaidi, N., Dwaikat, M., & Shweiki, I.(2013). Construction contracting management obstacles in Palestine. *International Journal of Construction Engineering and Management*, 2(1): 15-22.DOI: 10.5923/j.ijcem.20130201.03
- [18]. Doraisamy, S.V., Akasah, Z.A., & Yunus, R. (2014). A review on abandoned construction projects: Causes and effects. URL: [www.eprints.uthm.edu.my/6613/1/367.pdf](http://www.eprints.uthm.edu.my/6613/1/367.pdf)
- [19]. Duffield, C.F. (2001). An evaluation framework for privately funded infrastructure projects in Australia. Doctorate Thesis, Melbourne: University of Melbourne.
- [20]. Enshassi, A., Mohamed, S., & Abushaban, S. (2009). Factors affecting the performance of construction projects in the Gaza Strip. *Journal of Civil Engineering and Management*, 15(3): 269-280. DOI:10.3846/1392-3730.2009.15.269-280
- [21]. Eshofonie, F.P. (2008). Factors affecting cost of construction in Nigeria. Master's Thesis, Lagos: University of Lagos. URL: [www.eprints.covenantuniversity.edu.ng/346/1/PAT\\_MSc\\_1.pdf](http://www.eprints.covenantuniversity.edu.ng/346/1/PAT_MSc_1.pdf)
- [22]. Field, A.P. (2005).*Discovering statistics using SPSS: And sex and drugs and rock'n'roll*: Sage Publications.
- [23]. Foster, V., & Shkaratan, M. (2011). Malawi's infrastructure: A continental perspective. World Bank Policy Research Working Paper Series. URL:[www-wds.worldbank.org/...2011/...20110608023714/.../623910WPOP1](http://www-wds.worldbank.org/...2011/...20110608023714/.../623910WPOP1)
- [24]. Frimpong, Y.J.O., & Crawford, L. (2003). Causes of delay and cost overruns in construction of ground water projects in developing countries, Ghana Case Study. *International Journal of Project Management*, 21: 321-326. URL: [www.irbnet.de/daten/iconda/CIB\\_DC22741.pdf](http://www.irbnet.de/daten/iconda/CIB_DC22741.pdf)
- [25]. Fugar, F.D., & Agyakwah-Baah, A.B. (2010). Delays in building construction projects in Ghana. *Australasian Journal of Construction Economics and Building*, 10 (1-2): 103-116. URL: [www.epress.lib.uts.edu.au](http://www.epress.lib.uts.edu.au)
- [26]. Gasper, D.T. (2010). Move to revive some of 83 abandoned projects. The Star Online.URL:<http://thestar.com.my/news/story.asp?file=/2010/3/5/nation/20100305144742&sec=nati>
- [27]. Gilmour, T., Wiesel, I., Pinnegar, S. & Loosemore, M. (2010). Social infrastructure partnerships:A firm rock in a storm? *Journal of Financial Management of Property and Construction*, 15(3): 247-259. URL:[www.academia.edu/.../Social\\_infrastructure\\_partnerships\\_a\\_firm\\_rock\\_in\\_a\\_storm](http://www.academia.edu/.../Social_infrastructure_partnerships_a_firm_rock_in_a_storm)
- [28]. Hafez, S.M., & Elsaka, H.M. (2013). Identifying potential delay situations in advance to define construction contract obligations of public buildings. *International Journal of Education and Research*, 1:1-8.URL:[www.ijern.com/journal/September-2013/28.pdf](http://www.ijern.com/journal/September-2013/28.pdf)
- [29]. Haseeb, Xinhai-Lu, Bibi, Maloof-ud-Dyian, & Rabbani.(2011).Causes and effects of delays in large construction projects of Pakistan. *Journal of Construction Economics and Building, Conference Series*, 1(2): 52-59. URL:[epress.lib.uts.edu.au/journals/index.php/ajceb-conference-series/.../3362](http://www.epress.lib.uts.edu.au/journals/index.php/ajceb-conference-series/.../3362)
- [30]. Hicks, M.(2008). United States real estate, contract, project abandonment: separate legal concepts. Mondaq.
- [31]. Hoe, Y.E. (2013). Causes of abandoned construction projects in Malaysia: Master's Thesis Department of Surveying, Faculty of Engineering and Science, Universiti Tunku Abdul Rahman, Kuala Lumpur.
- [32]. Johnson, S., Gostelow, P., Jones, E. & Fourikis, R. (1995). *Engineering and social-an Australian Perspective*, Pymble: Harper Educational Publishers.
- [33]. Kamanga, M.J., & Steyn, W.J.(2013). Causes of delay in road construction projects in Malawi. *Journal of the South African Institution of Civil Engineering*, 55(3): 79-85. URL:[www.scielo.org.za/scielo.php?pid=S1021-20192013000300009&script](http://www.scielo.org.za/scielo.php?pid=S1021-20192013000300009&script)
- [34]. Kikwasi, G. (2012).Causes and effects of delays and disruptions in construction projects in Tanzania. *Australasian Journal of Construction Economics and Building, Conference Series*, 1(2): 52-59. URL:<http://www.epress.lib.uts.edu.au/journals/index.php/ajceb-Conference-Series/.../3362>
- [35]. Kong, L. (2009). Fairness for house buyers: The Star Online. URL:<http://thestar.com.my/news/story.asp?file=/2009/12/3/nation/5203993&sec=nation>
- [36]. Malawi Human Rights Youth Network. (2014). Annual Report, Lilongwe.URL: [www.mhryn.org/wp-content/uploads/2015/AnnualREPORT-2014.pdf](http://www.mhryn.org/wp-content/uploads/2015/AnnualREPORT-2014.pdf)
- [37]. Mauro, P. (1995). Corruption and growth. *Quarterly Journal of Economics*, 110 (3): 681-712. URL: [homepage.ntu.edu.tw/~kslin/macro2009/Mauro%201995.pdf](http://homepage.ntu.edu.tw/~kslin/macro2009/Mauro%201995.pdf)
- [38]. Mayavo, P.(2002). Non-Citizens in a Democratic Space: Perspectives on human security in Zimbabwe's large-scale commercial agriculture under the Land Reform Program: 1980-2002. Retrieved 11 Feb, 2011 from <http://www.accord.org.za/ajcr/2004-1/AJCR%20vol4-1%20pg45-63.pdf>
- [39]. MEI Paper. (2007). Spearman's rank correlation coefficient. URL:[www.mei.org.uk/files/pdf/spearmanrcc.pdf](http://www.mei.org.uk/files/pdf/spearmanrcc.pdf)
- [40]. Ministry of Housing and Local Government.(2011).DefinasiProjekdanPegawaiuntukdihubungi.

- [52]. Portal Rasmi Kementerian Perumahan dan Kerajaan Tempatan: URL: [www.kpkt.gov.my/kpkt/index.php/pages/view/181](http://www.kpkt.gov.my/kpkt/index.php/pages/view/181)
- [53]. Muhwezi, L., Acai, J., & Otim, G. (2014). An assessment of the factors causing delays on building construction projects in Uganda. *International Journal of Construction Engineering and Management*, 3(1): 13-23. URL: [www.article.sapub.org/10.5923/j.ijcem.20140301.html](http://www.article.sapub.org/10.5923/j.ijcem.20140301.html)
- [54]. Mukuka, M., Aigbavboa, C., & Thwala, W. (2012). Construction professionals' perception on the causes and effects of project delay in Lusaka, Zambia. South Africa: Department of Construction Management and Quantity Surveying, University of Johannesburg.
- [56]. Naoum, S.G. (2007). Dissertation research and writing for construction students. (2nd ed.) Oxford: Butterworth-Heinemann.
- [57]. Ndou, D.N. (2012). An investigation into the reasons for failure of community-based projects at Folvodwe, Limpopo. Doctoral dissertation, University of South Africa.
- [59]. Ng, A. (2009b). Grappling with abandoned projects: The Star Online.
- [60]. Obeng, L., & Patel, P. (2014, 20 February). Regional infrastructure in Sub-Saharan Africa: Challenges and opportunities, 1818 Society World Bank Room MC10-100.
- [61]. Olusegun, A., & Micheal, A. (2011). Abandonment of construction projects in Nigeria: Causes and effects. *Journal of Emerging Trends in Economics and Management Sciences*, 2(2): 142-145. URL: [www.jetems.scholarlinkresearch.com/.../Abandonment%20of%20Construction](http://www.jetems.scholarlinkresearch.com/.../Abandonment%20of%20Construction)
- [62]. of%20Construction
- [63]. Owolabi, J., Amusan, L., Oloke, C., Olusanya, O., Tunji-Olayeni, P., Owolabi, D., . . . & Omuh,
- [64]. (2014). Causes and effect of delay on project construction delivery time. *International Journal of Education and Research*, 2(4): 197-208. URL: [www.eprints.covenantuniversity.edu.ng:81/view/year/2014.html](http://www.eprints.covenantuniversity.edu.ng:81/view/year/2014.html)
- [65]. Palys, T. (2008). Purposive sampling. In: L.M. Given (Ed), *The Sage Encyclopedia of Qualitative Research Methods*. URL: [www.sfu.ca/.../Purposive%20sampling.pdf](http://www.sfu.ca/.../Purposive%20sampling.pdf)
- [67]. Ramsey, P.H. (1989). Critical values for Spearman's rank order correlation. *Journal of Educational Statistics*, 14(3): 245-253. URL: [www.jsotr.org/stable/1165017](http://www.jsotr.org/stable/1165017)
- [68]. Rwakarehe, E.E., & Mfinanga, D.A. (2014). Effect of inadequate design on cost and time overrun of road construction projects in Tanzania. *KICEM Journal of Construction Engineering and Project Management*, 4(1): 15-28. URL: <http://dx.doi.org/10.6106/JCEPM.2014.4.1.015>
- [69]. Sambasivan, M., & Soon, Y.W. (2007). Causes and effects of delays in Malaysian construction industry. *International Journal of project management*, 25(5): 517-526. DOI: 10.1016/j.ijproman.2006.11.007
- [71]. Seuring, S. & Müller, M. (2008). From a literature review to a conceptual framework for sustainable supply chain management. *Journal of Cleaner Production*, 16(15): 1699-1710. URL: [www.getcloser.dk/.../seuring-mueller-2008-from-a-literature-review-to-a-conceptual-framework-for-sustainable-supply-chain-management](http://www.getcloser.dk/.../seuring-mueller-2008-from-a-literature-review-to-a-conceptual-framework-for-sustainable-supply-chain-management)
- [72]. Shittu, A.A., Adamu, A.D., Mohammed, A., Suleiman, B., Isa, R.B., Ibrahim, K., & Shehu,
- [73]. M. (2013). Appraisal of building defects due to poor workmanship in public building projects in Minna, Nigeria. *IOSR Journal of Engineering*, 3(9): 30-38. URL: [www.iosrjen.org/Papers/vol3\\_issue9%20\(part-3\)/E03933038.pdf](http://www.iosrjen.org/Papers/vol3_issue9%20(part-3)/E03933038.pdf)
- [74]. Sunday, D.O. & Afolarin, A.O. (2013). Causes, effects and remedies of errors in Nigerian construction documents. *International Journal of Organization, Technology and Management in Construction*, 5(1): 676-686. DOI 10.5592/otmcj.2013.1.4
- [76]. Thwala, W.D. (2009). Experiences and challenges of community participation in urban renewal projects: The case of Johannesburg, South Africa. *Journal of Construction in Developing Countries*, 14(2): 37-54. URL: [www.web.usm.my/...2\\_2009/18236499\\_14.2.2009\\_](http://www.web.usm.my/...2_2009/18236499_14.2.2009_)
- [78]. Thwala, W.D., & Aigbavboa, C.O. (2011). Community participation for housing development. URL: [www.ujdigispace.uj.ac.za/.../Aigbavboa%20%26%20Thwala%202011%20](http://www.ujdigispace.uj.ac.za/.../Aigbavboa%20%26%20Thwala%202011%20)
- [79]. Thwala, W., & Mvubu, M. (2008). Current challenges and problems facing small and medium size contractors in Swaziland. *African Journal of Business Management*, 2(5): 93-98. URL: [www.irjet.net/archives/V2/i2/Irjet-v2i220.pdf](http://www.irjet.net/archives/V2/i2/Irjet-v2i220.pdf)