

The Causes and Impact of Uncompleted Buildings; Studies in Kampala City

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ABSTRACT

Scholars have carried out invaluable investigations regarding the problems affecting the construction industry, but, left out numerous uncompleted buildings with very little attention. Uncompleted buildings cost huge sums of money which cannot be divested. This research investigated the causes of uncompleted buildings and suggested solutions that may enable buildings to be constructed to completion in future. Specific emphasis was on the internal and external factors that account for uncompleted buildings. Being a survey research, questionnaires, observations and interviews were used to gather data. The top 15 causes of uncompleted buildings in Uganda were found to be a result of poor planning and poor management of the resources by the project parties. It is therefore recommended that clients being the employers and the owners of buildings should always clearly define their needs, be sure of their source of finance, and be prepared to pay for the services, avoid delays, and always recruit the right professionals from the onset of projects. The problem areas have been highlighted which can help the policy makers, construction parties, and scholars, and to ensure resources are not wasted in incomplete projects. This is in line with the millennium development goal 1 through wealth creation and continuity of employment and a sustainable market for construction products.

Key words: Cost, impact, period, uncompleted building

1.0 INTRODUCTION

From the beginning of civilisation, man has been involved in some form of construction. The pyramids of Egypt, the Great Wall of China, the Angkor temples of Cambodia and the famous uncompleted biblical tower of Babel are some exhibits of the great wonders of the world created by man. The construction industry is one of the largest industries in the world employing millions of people (Chitkara 2005). In Uganda, it is the second largest employer to agriculture with over 1.3% of the total registered employees (Alinaitwe 2008). According to Uganda's Ministry of Finance, the construction industry was contributing 12% of the Gross Domestic Product (GDP) by 2005, (Ministry of Finance 2005). However, besides all the contributions, many building projects have remained uncompleted at different stages including others being finished as a blueprint or whiteprint and never implemented, or discarded during construction. The problem of uncompleted buildings is a global dilemma as witnessed from Ryugyong Hotel in North Korea that would probably be one of the tallest hotels and the seventh largest building in the world, but it is uncompleted, uninhabitable and may not be completed at all, due to its high cost and poor structural integrity. In Egypt, many buildings are reportedly never completed to elude taxes. Cases in Uganda include: the extension of Uganda House has been at the foundation level for decades due to change of governments and political instability; a multimillion dollar structure for the former Uganda Commercial Bank in Makerere University has remained uncompleted for decades; and many uncompleted buildings in Kyambogo University.

2.0 RELATED IDEAS FROM OTHER SCHOLARS

Construction is one of the major contributors to Uganda's economic recovery with private and individual property developers taking the lead (UBOS 2002). Current official figures indicate that the growth in the sector averaged over 13% per annum between the year 2002 and 2007 (UBOS 2008). Besides the boom, many construction projects have however uncompleted or have had very slow work progress. Some cited causes of project failure include changing financial climate, faulty design or unforeseen structural weaknesses, or a dramatic shift in the politics of the country. Tushabomwe (2006) affirms that many businesses in Uganda fail due to the internal and external factors. Shutt (1995) pointed out the same. Some of the cited factors responsible for uncompleted buildings include:

2.1 Planning and Management

Harris and McCaffer, (2002) contend that project failures due to time and cost overruns results from; poor field investigation, under-estimates, lack of experience, inadequate project analysis, and poor investment decisions. Poor planning for implementation entails inadequacies in time plan, resource plan, equipment plan, coordination, organization, cost planning and improper pre/post contract actions. These result into inefficient and ineffective working delays, low resources productivity, change in scope, and illegal construction (Chitkara 2005). Unclear objectives, unworkable schedules, failure to identify critical items, lack of understanding of operating procedures, and ignorance of appropriate planning techniques are all a manifestation of poor planning and poor management. Poor communication can also turn a corporate strategy into a modern day Tower of Babel. Benjamin (2006) carried out a research in Indonesia, monitoring corruption in road construction, which provided a real-world example on how corruption constituted one of the causes of project failures in the form of missing quantities and stealing of construction materials.

2.2 The Role of the Project Parties

The client: Butler (1982) maintains the view that the client's first task should be to analyse and collect all the relevant information that is available to him in order to give the designer the clearest and broadest picture of his requirements. Change of scope, rejection of work that they had not understood the drawings, dissatisfaction resulting from poor quality works, and delays to commission some stages of work, delayed approvals by the authorities and failure to procure materials and labour in time are some of the causes of project failure. Hardy Cross (cited in Lang & Mills, 1979) observed that if the owner can pre-qualify the contractors by screening out those whose performance cannot be trusted, the success rate of projects can improve significantly. Egan (1998) in Alinaitwe (2008) added that the potential for change in construction is well informed, demanding clients who know what they want and how much they are prepared to pay for it.

Designers and consultants: Incomplete or unclear design documents lead to mistakes in execution and inevitably cause delays while people try to figure out what the design documents do or do not show. The teams should therefore gather enough data, use competent designers with knowledge and experience to ensure designs are complete.

The contractor: The contractor should decide whether or not, with the resources and general management and administrative set up at his command, he is in a genuine position to take up the project to success. Contractors execute most of the construction works and the most aggravating delays are often those caused by their poor performances (Chitkara 2005).

2.3 Economic Factors

Construction suffers from inflation, government policy, politics and global factors just like any other business according to the laws of demand and supply (Shutt 1995).

2.4 Training and Experience

As explained by Global Study (2001), Project Managers have little or no formal training to deal with the complexities of modern projects. Tushabomwe (2006) highlighted lack of training and research as one of the internal problems affecting businesses in Uganda. Shrivastava (2008) suggested the causes of accidents are mainly due to lack of supervision, training and experience.

2.5 Source of Finance for Building

A study by Hewitt (1987) in Alinaitwe (2008), cited lack of access to finance as arguably the most critical of the building constraints as lenders want to be assured that the project will offer a fair return on the investment. Tayebwa and Mugisha (1998) cited personal savings, loans, trade credits, trade bills, retained profits, selling bonds, and shares as the sources of finance.

3.0 METHODOLOGY OF STUDY

The study was done in Kampala City being the hub of political, social and economic activities in Uganda. Concepts, theories and findings from other researchers were reviewed. Primary data was acquired through the use of structured questionnaires, interviews, and observations. Questionnaires were extensively used due to freedom from interviewers' bias, and respondents have adequate time including those unapproachable being able to participate.

3.1 Target Population and Sample Size

The study considered the entire population of uncompleted buildings in Kampala City, constructed between 1997 and 2006. The formula, below was adapted as used by Fisher *et al.* (1983), to estimate the sample size.

$$n = \frac{Z^2 pq}{d^2} \quad (1)$$

Where n is the desired sample size, Z is the standard normal deviation at the required confidence level of 95% and the standard normal deviation Z is 1.96 from calculation, d is the level of statistical significance, and p is the proportion in the target population estimated to have characteristics being measured and was assumed to be 50% or 0.5, and $q = 1 - 0.5$.

3.2 Pilot Survey

Ten subjects to help in refining the procedure such as instrument administration, scoring routines and in trying out analysis techniques, validity and reliability tests were used.

3.3 Composition and Sample Design

All public and private institutions and individuals with uncompleted buildings formed the subjects. Non-probability sampling design was adopted since no statistics of uncompleted buildings could be got. The five divisions were used as blocks for purposes of reliability (Fisher 1960). A total of 300 out of 430 were found valid, representing a response of 70%. Moser and Kalton (1971) recommend 33%. Clients were targeted as contractors had all been terminated. Research assistants were trained and closely supervised for data reliability and validity.

3.4 Data Presentation and Analysis

Editing, scoring, classifying, weighing, and ranking (Table1), and presentation using statistical tables, graphs and bar charts were carried out. Relative Indices Technique and Microsoft Excel were used in the analysis. Measures like the frequencies, the distribution by category, and searching for patterns of relationships were done.

Table 1: Causes of Uncompleted buildings in Uganda

Ranking	Causes of Uncompleted Buildings	Individual developers	Private institutions	Public institutions	Total Weighted Scores
1	Misuse of funds	33	21	13	67
2	Poor plan / poor management	41	21	5	67
3	Under estimates	33	16	5	54
4	Source of finance	42	11	1	54
5	Inadequate supervision	4	17	2	43
6	Lack of experience	30	11	2	43
7	Accidents	27	10	4	41
8	Substandard works	17	17	3	37
9	Inflation	14	9	5	28
10	Faulty or faulty design	13	9	5	27
11	Improper feasibility study	8	13	4	25
12	Lack of training	20	3	2	25
13	Death of a party	19	4	1	24
14	Corruption	18	2	3	23
15	Sickness	7	5	10	22
16	Incompetent contractor	10	9	3	22
17	Illegality of construction	12	7	1	20
18	Lack of controls	16	3	1	20
19	Natural hazards	6	12	2	20
20	Political influences	3	7	8	18
21	Change of policy	1	10	6	17
22	Public unacceptability	4	9	1	14
23	Better investments	6	7	0	13
24	Loss of interests	8	4	0	12
25	Competition	1	5	4	10
26	Change of governments	0	3	5	8
27	Saboteurs	1	4	1	6
28	Government policy	1	2	2	5
29	Cultural misfit	0	2	2	4
30	Wars/insecurity	0	2	2	4
	Total Responses	467	279	100	846

Equation 2 below was used to drop out the insignificant factors that were conceptualised.

$$RI = \frac{1n_1 + 2n_2 + 3n_3 + 4n_4 + 5n_5}{5[n_1 + n_2 + n_3 + n_4 + n_5]} \dots \quad (2)$$

Where, n_x = the number of respondent agreeing with the x variable. This formula was used in relation with the Likert scale (Likert 1932). The computation of the relative index (RI) yielded the value of RI ranging from point two to one, where point two represents minimum strength and one the maximum strength (Lim *et al.*, 1995).

4.0 RESULTS AND DISCUSSION

The main purpose of this research was not to identify and list the numerous causes of uncompleted buildings but to ascertain the key ones that significantly impact on the completion of buildings. For that matter, only 15 top causes of uncompleted buildings constituting 71% of the problem were selected and possible solutions suggested. This is in line with the approach by McIntosh and McCable (2003). Internal factors were found to be the leading causes of uncompleted buildings as shown in Table 2. Chitkara (2005) and Tushabomwe (2006) concur with the findings.

Table 2: Summary of the Leading 15 causes of Uncompleted Buildings

S/No.	Causes of Uncompleted Buildings	Remarks	References
1	Misuse of funds	Fraud in procurement, diversion of funds and lack of controls and accountability	Benjamin (2006)
2	Poor plan / poor management	Poor decision making and lack of control of resources during implementation	Chitkara(2005), Harris and McCaffer (2002)
3	Under estimates	Unrealistic time and cost due to unqualified estimators	Chitkara (2005) and Project Management Institute (2000),
4	Source of finance	Unreliable sources and fraudulent sources of funds	Alinaitwe (2008), Shutt (1995)Tayebwa & Mugisha 1998,
5	Inadequate supervision	Lack of direction and control	Alinaitwe (2008)
6	Lack of experience	Had not constructed previously hence lack of exposure	Global Study (2001)
7	Accidents	Court cases and intervention by authority for investigation	Shrivastava (2008)
8	Substandard works	Rejection by: clients, consultant, local authorities and the public	Chitkara (2005), Harris and McCaffer, (2002),
9	Inflation	Cost overrun and lost value	Shutt (1995) and Tushabomwe (2006)
10	Faulty or faulty design	Time wasted in clarification and modification	Alinaitwe (2008)
11	Improper feasibility study	Lack of technical, managerial and economic information	Alinaitwe (2008)
12	Lack of professional training	Lack of knowledge on what were to be done	Tushabomwe (2006)
13	Death of a party	Loss of source of finance	Field data
14	Corruption	Stealing and misuse of resources	Benjamin (2006)
15	Sickness	Frustration, lost of interest and loss of source of finance	Field data

4.1 The Construction Parties and their Roles

The parties to any project play the roles of planning and managing the resources to achieve the project objectives. The success of a project relies on the planning, organizing, coordinating, monitoring, communicating and controlling of the resources.

Alinaitwe (2008) asserts that clients do not perform well in the areas of paying the contractors as agreed. This leads to lack of motivation, including no training of the workforce. Contractors also do not accomplish their tasks as per the time, quality, cost and scope.

4.2 Impact of Uncompleted Building Projects

Uncompleted buildings depreciate without utilisation and interest accrues on money sunk. This results into frustration, embarrassment and poverty as the money spent cannot be divested. It leads to loss of property, businesses, revenue, employment, and market for suppliers, and cases of theft and vandalism, and quality degradation. Incomplete projects can also lead to low job satisfaction, low corporate market value, and low public opinion. The incomplete structures can be places for crimes and can be very costly. Bowen *et al.* (1997) in Alinaitwe (2008) concur that construction has a very high proportion of unsatisfied clients.

5.0 CONCLUSION

This research established the leading 15 causes of uncompleted buildings in Uganda. These were found to be misuse of funds, poor planning and poor management, underestimate of resources and time, unreliable source of finance, inadequate supervision, lack of experience, accidents, substandard work, inflation, faulty and incomplete designs, inadequate feasibility study, inadequate professional training, deaths, and corruption.

6.0 RECOMMENDATIONS

From the study, the following can be recommended:

- a) Clients should know what kind of products they want and clearly define them, in brief.
- b) Clients should know what it will cost to have completed buildings through qualified estimators, be sure of their source of finance, inform the planners, and be prepared to meet their obligations of timely payments of dues in addition to carrying out timely approvals.
- c) Qualified and experienced designers and contractors should be engaged to produce appropriate designs, project schedules, estimates, and form reasonable expectation on the product quality, prepare for financial fluctuation, and get documents approved.
- d) Consultants should do an in-depth investigation and evaluation in a technically competent way within the limitation of the clients' resources to minimize the design and cost variations.

A down to earth approach that will enable future buildings to be constructed to completion necessitates having a quality plan development process aimed at a time and resource based plan of action for coordinating the various activities and resources by experienced and qualified staff.

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