

# A Case for Acceleration Rather Than Extension of Time on Construction Projects in Uganda

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## Abstract

The Construction industry in Uganda is one of the fast growing industries in the Economy due to the increased volumes of investment in the country in the last decade. However like in many other construction industries worldwide, the industry faces the problem of delay in completion of projects. In this study a field survey was conducted with face to face interviews and detailed analysis of data received from projects with contract sum more than 5m USD. Each of these projects had a slip in the project cost and time. Data were gathered using structured questionnaires and analyzed using a tabular presentation identifying percentages of given responses. It revealed that rather than give an extension of time, most firms were willing to accelerate works to catch up on lost time. This is supported by the fact that most of the big construction firms in Uganda have the capacity to complete the projects handled in a much shorter time if they see an economic benefit in early completion hence the case for acceleration rather than extension of time.

**Keywords:** Acceleration, Extension, Construction, Project, Uganda

## Introduction

One of the major factors in evaluation of the return on an investment is the amount of time it takes to recoup the capital invested in the project. This factor is directly affected by the length of the construction period in other words the time taken to get the project ready for occupation by tenants. When this time is longer than agreed in the contract, the Client loses revenue that would have been collected during that time. Potential revenue loss is due to delay in completion and hence delayed occupancy by tenants.

Sanders & Eagles, 2001 define a delay as an event that results in an extension of the time necessary to complete all or part of a project. Halvorson, 1995 indicates that the contractor's right to recover increased performance costs as a result of acceleration depends on the type of delay that reduces the performance period. He classifies delays as follows: non-excusable delay; excusable delay; compensable delay, suspension and disruption; imposed milestone, and concurrent delay.

It is vital to note that in most construction industries worldwide especially in Africa, there are no established statutory guidelines for determining the length of a construction period and as such both Consultants and Contractors determine that time depending on their past experience on similar projects. Usually clients particularly on private construction projects set the time frame in which they would like to have their projects ready for occupancy usually taking into account such factors like grace period given for servicing of a loan. However, most times issues like the complexity of the works, the capacity of the contractor are not fully considered.

The objective of this study was to investigate how delays are handled on construction projects in Uganda. Then analysis the net gain on each side of the construction contract parties when a project is completed on time. The author being an Architect who has practised in the East African region for now more than 15 years and supervised projects of various scales with very varied clientele can testify that the issue of how to handle a delay on any project can be a tough one and causes a lot of friction among Project team members. This issue of non-completion on time in the East African Institute of Architects Conditions of engagement contract is highlighted in a full clause. When the contractor delays to complete the project in the agreed contract period, and in the opinion of the architect ought to have done so, he is required to pay to the client liquidated damages as a remedy to the loss cause due to non-completion.

Davison, 2003 points out that the refusal to grant EoT for excusable delay in the USA is normally converted into an implied instruction to accelerate. In South Africa, however, the situation is somewhat different as indicated hereinafter. The approach under English law, as pointed out by O'Reilly, 2007, is that if there is no express authority in the contract to accelerate, then no entitlement arises to claim extra costs for acceleration. O'Reilly further states that the only exclusion is where the certifier is expressly empowered under the contract to order acceleration on the employer's behalf.

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### **Literature Review on delays on construction projects.**

Delays in completion of projects are a major problem that commonly faces parties involved in construction and Engineering projects. Not only do they result in significant financial losses to Contractors such as additional overhead expenses incurred beyond those originally contemplated for the project; they also expose Clients to serious financial and economic risks such as high interest rates and loss of market opportunities. Project delays are generally the result of multiple causes from multiple parties such as Contractor, Client, Consultant, Supplies etc, which factor makes the task of justifying and qualifying the effect of individual item of delay events on project duration an extremely difficult task.

According to Mustafa and Bingunath, 2003 Governments, industry and clients want to bring about change in the Construction industry in order to meet mechanisms of improving quality, competences and profitability there by increasing the value to clients and other stake holders. Kaming, Olomolarye, Holt and Hams, 1997 state that inflationary increases in material cost, inaccurate material estimation and project complexity are the main causes of cost over runs. The predominant causes of delays are: design changes, poor labor productivity and inadequate planning. Normally when projects are delayed, they are either extended or accelerated and therefore, incur additional cost. The normal practices usually allow a percentage of the project cost as a contingency allowance in the contract price and this allowance is usually based on judgment. Ahmed maintains that delays on construction projects are a universal phenomena. They are almost always accompanied by cost and time over runs. Construction project delays often result in adversarial relationships between construction stake holders. Delays also lead to disputes, litigation, arbitration, cash flow problems and a general feeling of apprehension towards each other. Delay is generally acknowledged as the most common costly, complex and risky problem encountered in Construction project. It is therefore, the source of frequent disputes and claims leading to law suits.

According to designing buildings wiki, acceleration is the process of speeding up the work of a contractor so that a particular activity, or the project as a whole, can be completed before the date required under the contract. Generally, it is the client that requires the acceleration of construction work. A client might require that a building is handed over earlier than is set out in the contract or, where the contractor has been allowed an extensions of time, may require completion earlier than the revised completion date. Where the contractor incurs additional costs as a result of this sort of acceleration, it can result in a claims against the client. Typically, the contractor does not have to prove the works were actually completed more quickly than originally agreed, just that they made a reasonable attempt to do so and that the attempt resulted in additional costs. Acceleration of the works may also be undertaken by the contractor voluntarily, if, for example, they wish to; move on to another project, mitigate inefficiencies and delays that may have been incurred, or to save on costs. They may also be motivated by bonuses awarded for early completion. However, if acceleration is undertaken voluntarily, the contractor will not be able to claim additional costs from the client.

There are several techniques available for accelerating work: Working overtime; Adding new shifts; Providing additional labour; Additional supervision; Providing additional resources, such as plant and equipment; Re-sequencing work activities (also known as project crashing or fast tracking); Adopting alternative construction methods, such as off-site manufacturing; Changing the design or specification; Reducing the scope of the works (for example transferring responsibility for some works from the contractor to the client); Early procurement of key items. These techniques are likely to result in additional costs and may not guarantee early completion. Whilst the same number of tasks need to be performed, they are condensed into a shorter period, and so are likely to require more resources. In addition, purchasing costs may be higher due to time pressures, incomplete information and the complexity of managing the interfaces between elements.

A greater number of variations are also likely than on a traditional contract. Options such as working overtime typically result in employees being paid at a higher rate (typically 1.5-2 times the regular rate). Acceleration is also likely to result in additional risks. If resources are focused on critical path activities, there is the possibility that non-critical path activities will be affected. Quality, safety and compliance can be affected, and acceleration can result in an overall loss of productivity, perhaps due to tiredness on the part of workers being required to do overtime, or unfamiliarity of the site and the project on the part of additional workers being brought in. It is recommended that acceleration agreements are prepared prior to the implementation of acceleration measures, to clarify the position on cost, reward, risk and so on.

Construction contracts generally allow the construction period to be extended where there is a delay that is not the contractor's fault. This is described as an extension of time (EOT). When it becomes reasonably apparent that there is, or that there is likely to be, a delay that could merit an extension of time, the contractor gives written notice to the contract administrator identifying the relevant event that has caused the delay. If the contract administrator accepts that the delay was caused by a relevant event, then they may grant an extension of time and the completion date is adjusted.

Relevant events may include: Variations; Exceptionally adverse weather; Civil commotion or terrorism; Failure to provide information; Delay on the part of a nominated sub-contractor; Statutory undertaker's work; A

delay in giving the contractor possession of the site; Force majeure (such as an epidemic or an 'act of God'); Loss from a specified peril such as flood; The supply of materials and goods by the client; Strikes; Changes in statutory requirements; Delays in receiving permissions that the contractor has taken reasonable steps to avoid. The contractor is required to prevent or mitigate the delay and any resulting loss, even where the fault is not their own. Assessing claims for an extension of time can be complicated and controversial. There may be multiple or concurrent delays, some of which are the contractor's fault and some not. There are many occasions where contractors contribute to delay themselves by their performance during design periods, when producing drawings, mock ups and samples or in inter-facing with sub-contractors.

Crucial in assessing applications for extension of time is the quality of the information provided and records available. Claims should be judged against the actual progress of the works, not the programme, and must demonstrate the link between the breach (cause) and the delay. The contract administrator may review extensions of time after practical completion and further adjust the completion date. Mechanisms allowing extensions of time are not simply for the contractor's benefit. If there was no such mechanism and a delay occurred which was not the contractor's fault, then the contractor would no longer be required to complete the works by the completion date and would only then have to complete the works in a 'reasonable' time. The client would lose any right to liquidated damages. Claims for extension of time can run alongside claims for loss and expense (relevant matters) however, one need not necessarily lead to the other.

### **Methodology Used**

One of the major criteria for selecting the appropriate research strategy in any study is the nature of the research problem or the objectives of the study [4, 13]. The objectives of the authors' current research were to find out the factors that lead to delay of projects in Uganda; rank them according to the importance and then obtain a basis for a case for acceleration rather than extension of time. The study was a descriptive quantitative research. Data collection was done by means of questionnaires which were completed by a selected group of individuals. The questionnaires tested respondents' views and knowledge regarding issues relating to acceleration claims on construction projects in Uganda.

The research strategy employed were surveys and analysis of architectural records and case studies particularly on those projects where the author worked a resident architect. Among the various methods of conducting surveys (sending questionnaires out by post, fax and email, face to face interviews); face to face interview was selected as the most suitable. Face to face interviews were held with both contracting organizations as well as consulting organizations.

### **The Ugandan case – Acceleration and not extension of time**

In Uganda, the system is that at tender stage, the Bidder is required to show in his bid the proposed time frame for completion of the project. Also the consultant prior to tender must have indicated the most feasible time frame for execution of the project. Given the absence of scientifically developed mechanism for determination of construction project time frames, it brings into question how reliable the consultant time frame is yet the consultants time frame estimate is one of the major criteria used in the evaluation of bids and hence determination of the winner. On completion of the tender process and obtaining of the winning bid, a contract is prepared and signed between Client and Contractor. In the contract is shown of start and completion dates of the project. Usually the date shown in the winner's bid becomes the contract period, however it should be noted that usually this duration is made with the ambition of winning the Bid and can therefore be misleading. It is known that the project construction period is determined from the aggregate total of the required time to complete all the identified tasks of the project; the experience of the staff executing the works, weather condition and procurement schedule.

Under the frequently used contract Agreement and Schedule of conditions of the Building Contract designed by the East African Institute of Architects, there are two clauses that concern the project completion time. They work in such a way that if one is applied the other is automatically not applied. In other words the two cannot be enforced at once. The two clauses are Clause 22 – 'Damages for non-completion' and Clause 23 – 'Extension of time'.

The Damages for non-completion clause indicates that if the Contractor fails to complete the works by the Date of Practical completion stated in the contract, and the Architect certifies in writing that in his opinion the same ought reasonably so to have been completed, then the Contractor shall pay or allow the Client a sum calculated at an agreed rate as liquidated and ascertained damages for the period which the works shall so remain incomplete. The Extension of time clause on the other hand gives the Contractor the right to an extension of time if the reasons presented for the delay were not of his own making. The clause highlights such reasons like force majeure, exceptional inclement weather, and civil commotion.

The research revealed that the practice in Uganda is that almost 80% of those times when the project is delayed, the contractor has valid reasons and as such he is entitled to an extension of time. It is important to add

that whenever an extension of time is awarded, it attracts additional costs hence increase of project cost. In such scenarios, the client loses two fold – the would-be revenue had the project been finished on time (loss of revenue due to delayed completion) as well as paying extra cost for preliminaries during extended period. Also the research revealed that this clause is rarely enforced as rarely do contractors especially the big sized firms like ROKO Construction, Cementers be responsible for delays on project. They most times aim is to complete the project as fast as practically possible and earn the profit and move to next project.

From the above review of the current situation in Ugandan Construction industry, the author proposes a case for acceleration and how this can be achieved so as to get all parties interested in the same. The proposal includes the preposition and determination of a reward to be given to the contractor in case he finishes the project earlier than the contract period agreed. In Uganda this can be achieved due to the high capacity of some of the senior firms that do most projects in Uganda which they don't exploit to the maximum due to the size of the projects. They therefore have the capacity to expedite and complete a project much earlier than agreed. However when they do so, they incur costs which must be compensated for. On the other hand, the client benefits when a project is completed on time or earlier.

In order for the proposal for acceleration and not extension of time to work, the author proposes methods on how calculate this economic benefit then compare it to the costs a contractor will incur to accelerate the works. Economic effect of Client [  $P_{client}$  ] early completion and hand over of project should exceed the award he proposes to the contractor [  $R_{contr}$  ] and as such this reward must exceed the costs [  $C_{contr}$  ] incurred by contractor to accelerate the work, hence the equation below must be satisfied.

$$P_{client} > R_{contr} > C_{contr}, \quad (1)$$

where

$P_{client}$  - Economic benefit obtained by client from early completion;

$R_{contr}$  - the reward proposed to the Contractor

$C_{contr}$  - the costs incurred by the contractor to accelerate the works.

In determining the economic benefit of the Client from early completion, the author proposes that this is obtained from the additional revenue received as a result earlier completion and occupancy of the building by tenants and is derived from the formula 2.

$$P_{client} = R(T_1 - T_2), \quad (2)$$

Where

$P_{client}$  - Economic benefit obtained by client from early completion;  $R$  - Average monthly income expected.

$T_1$  - Agreed contract period for construction, in months;  $T_2$  - Actual construction period, in months.

The reward for the contractor it then calculated as a percentage of  $P_{client}$  hence the formula 3

$$R_{contr} = \alpha P_{client}, \quad (3)$$

As shown above, once the reward is determined, negotiations can proceed to between the two parties, only after the contractor has ascertained the costs that he will incur to accelerate the project.

## Conclusion

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$$P_{client} > R_{contr} > C_{contr}, \quad (4)$$

where

$P_{client}$  - Economic benefit obtained by client from early completion;

$R_{contr}$  - the reward proposed to the Contractor

$C_{contr}$  - the costs incurred by the contractor to accelerate the works.

In determining the economic benefit of the Client from early completion, the author proposes that this is obtained from the additional revenue received as a result earlier completion and occupancy of the building by tenants and is derived from the formula 2.

$$P_{client} = R(T_1 - T_2), \quad (5)$$

Where

$P_{client}$  - Economic benefit obtained by client from early completion;  $R$  - Average monthly income expected.  
 $T_1$  - Agreed contract period for construction, in months;  $T_2$  - Actual construction period, in months.

The reward for the contractor is then calculated as a percentage of  $P_{client}$  hence the formula 3

$$R_{contr} = \alpha P_{client}, \dots \dots \dots (6)$$

As shown above, once the reward is determined, negotiations can proceed to between the two parties, only after the contractor has ascertained the costs that he will incur to accelerate the project.

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