Management Of Time Overrun In A Selected Building Projects In Auchi Polytechnic, Auchi, Edo State

Oso Sunday, B.

Lecturer II, Department of Quantity Surveying, Auchi Polytechnic, Auchi, Edo State, Nigeria

Simon-Eigbe Bridget, O.

Senior Lecturer, Department of Quantity Surveying, Auchi Polytechnic, Auchi, Edo State, Nigeria

Bejide Olusola, I.

Principal Lecturer, Department of Quantity Surveying, Auchi Polytechnic, Auchi, Edo State, Nigeria

Abstract: Construction project is very essential in the economic development of any nation especially in an expanding economy like Nigeria. Completing projects in a predicable manner on time is an important indicator of projects success and the construction industry is frequently criticized for project delays. The aim of this study is to assess management of time overrun with a view to enhancing the timely delivery of building construction projects. It identified the causes of time overrun, assessed time performance of construction projects and evaluated management techniques used to mitigate time overrun. It adopts a study of selected building projects in Auchi polytechnic. Ten completed building projects between 2011-2019 were selected out of twenty projects under construction. A proforma was used to gather time data on selected building projects, while structured questionnaire was used to harness information on the possible causes and mitigating measures of time overrun.Out of 65 copies of questionnaires administered, 52 were completed, returned and found suitable for analysis. Paired sample t-test was used to assess time performance of building project, mean item score was employed to analyse causes of time overrun, and mitigating measures of time overrun. The findings revealed that omissions in contract document, design changes by owners during construction, inadequate feasibility studies, and inaccurate estimate were the top causes of time overrun. It further revealed that effective planning strategy, availability of resources, accurate initial cost estimate, proper payment from client and clear information/ communication channels were the top mitigating measures of time overrun, the building projects in the study area experienced a fair time performance of 56% and exposed to average time overrun of 44.00%. Also, the result of paired sample t-test showed that there is significant difference between the initial time and final completion of the construction projects executed. The study recommends among other things that: full consideration should be given to projects from inception to completion, adequate and effective consultancy services for clients, as well as strict follow up of programme of works by every contractor for construction projects.

Keywords: Auchi, Building Construction Projects, Management, Selected, Time Overrun.

I. INTRODUCTION

The construction industry plays an integral part in the advancement of any nation and the physical progress of construction projects including roads, buildings, power station and bridges is a measure of the economic up-turn through which a society accomplishes its purpose and objectives of rural and urban advancement (Alzahrani & Emsley, 2013).In construction industry, one of the basic goals of practitioners is to achieve timely completion of projects within stipulated budget and required quality as each day of time overrun in the completion of any project has direct impact on the cost of project (Ofori, 1990). Poor time performance has led to significant amount of time overrun, this chronic issues is

experienced world-wide and becoming more critical in construction industry and is common on most public projects in developing countries especially in Nigeria (Aftab *e tal*, 2013; Anigbogu, 2017; Inuwa, 2014; Ogunsemi & Jagboro, 2006). Furthermore, reviewed of previous studies notably (Aibinu & Jagboro, 2002; Inuwa, 2014; & Kunya, 2006) revealed that the problem of time overrun still remains among the top issues in construction industry and generates researchers interest in determining the root causes and developing a mitigating measures to avoid or minimize the occurrence of time overrun. Time management practice is the process of planning, estimating, coordinating, controlling and reporting of all time related outputs from project initiation to operation, maintenance and disposal. According to Luu, Kim & Huynh (2007), the time management practice/system consists of a set of principles, methods and tools whose main objectives are to time and generate information in order to support different managerial decisions during the distinct phase of a project. Kim (2002) opined that in the construction industry, time management practice must include the processes required to ensure that the project is completed within the approved duration.

Time overrun can be defined as late completion of works as compared to the plan schedule or contract schedule, it occurs when the progress of a contract falls behind its scheduled program (Assaf & Al-Hejji, 2006). It may be caused by any party to the contract and may be a direct result of one or more circumstances (Abbas, 2006). A contract delay has adverse effects on both the owner and contractor (either in form of lost revenues or extra expenses) and it often raises a contentious issues of delay responsibility, which may result in conflict that frequently reach the court (Abbas, 2006). However, this study focused on management of time overrun in selected building construction project with a view of enhancing the timely delivery of building construction project.

STATEMENT OF RESEARCH PROBLEM

It has been observed and described by the public and other users of government founded projects that they always lag behind in time, which conversely have a bearing on cost due to various factors (Kikwasi, 2012). In Pakistan, projects are also facing cost overrun, time delays, critical issues of project management (Haseeb, 2011). Weaknesses and faults of the owner and contractor are the main cause of variation in project delays (Al-Momani, 2000; Asaaf, 2006). Many studies have been carried out to investigate the causes of poor performance on projects and specifically what causes time overruns on projects, this study have been done in both developed countries and developing countries (Toor & Ogunlana, 2008). Alsehaim, Koskela and Tzortzopoulos (2013) summarized the causes of time overrun from literature, observed that they were indicative of poor planning during design as well as during execution.

Completing projects on time is an indicator of effectiveness but the construction process is subject to many variables and unpredictable factors which result from many sources, these sources include the performance of parties, resources availability, environmental conditions, involvement of other parties and contractual relation (Kikwasi, 2012).

Construction delay is considered to be the most recurring problem in the construction industry and it has an adverse effect on project success in terms of time, cost, quality and safety (Alsehaim *e tal*, 2013).Suppliers of construction materials has yet suffered from the drag of delays, cost and multiple efforts to create a statistical mode to help adjust the floats and budgets of the planning schedule have been conducted in recent studies, only to emphasize the effect time overrun has on every angle of the construction project process (Ozcan-Deniz & Ceron, 2012; Abu & Sweis, 2010).

II. LITERATURE REVIEW

CAUSES OF TIME OVERRUN

There are many factors that contribute to causes of delays in construction projects. Delays occur in every construction project and the magnitude of these delays varies considerably from project to project. It is essential to define the actual delay in order to minimize and avoid delay in any construction project. A number of studies have been carried out worldwide to determine the causes of delay in construction projects. Afshari, Khosraui, Ghorbanali, Borzabad & Valipour, (2010) evaluate non-excusable causes of delays in a company in Hong Kong, and noted that the main causes of delay entail the selection of incompetent subcontractors, poor management of the project changes, lack of mechanism for recording, analyzing and transferring project lessons learned. Another study revealed that the main causes of time delays pertain to design changes, contractor payments, information gaps, finance, poor project management, compensation issues and disagreement of the valuation of work done (Kikwasi, 2012).

According to Aiyetan, Smallwood and Shakantu (2010), time delay in construction may result from the extent to which the client understands a design, procurement method, and the coordination of the work to be done. Ameh & Osegbo (2011) concluded that the biggest contributors to time overrun is inadequate funding for the projects, inadequate planning of project before take-off, absence of required tools and equipment, delay in delivery of material, subcontractors incompetency and design changes. Furthermore, Ramanathan, Narayanan & Idrus, (2012) said the main causes of time delays are slow payment for completed works, contractor financial difficulties, cash problems during construction, inflation and financial difficulties to owner. The quality of management during construction of resources also negatively affect the completion time of projects, physical environmental conditions such as rainfall and varying temperatures negatively affect delivery time of project (Aiyetan, Smallwood & Shakantu, 2012). Mohammed and Isah (2012) examined the causes of time overrun in the Nigerian construction industry and highlighted that major factors of time overrun are improper planning, lack of communication, design errors and shortage of resources like steel, concrete, raw materials and slow decision making.

However, Sindhu and Subramanian (2015) concluded that the main causes of time overrun in construction of public projects relate to designers, users changes, weather, site conditions, and late delivery of materials, economic condition

and increase of quantity. Generally the causes of time overrun are poor site management by the contractor, poor weather condition, material shortage, equipment shortage, manpower shortage, rainy weather, land acquisition, inadequate feasibility studies, lack of communication between parties, financing of and payment for completed project, inaccurate estimate, price fluctuations, price inflation, design changes by ownership during construction, man power labour skill and sub-contractors incompetency. Also poor workmanship, carelessness, short-cuts and construction mistake causes time overrun. Contractors usually undertake short-cuts to complete the construction work due to time constrains.

TIME PERFORMANCE OF CONSTRUCTION PROJECT

The increasing importance of time in our globalized society has affected the construction industry in form of shortened project schedules. Chan & Kumaraswamy, (2002) stated that construction is increasingly important because it often serves as a crucial bench marking for assessing the performance of a project and the efficiency of the project organization. Since time can be a critical issue for many clients, project duration is often of prime interest. However, schedule overruns may be an even more important issue. Completing projects in a predictable manner on time (within schedule) is an important indicator of project success and the construction industry is frequently criticized for project delays. Time performance usually means the project is completed on or before the agreed handover date, sometimes contractual documents refers to time being the essence of the contract which exemplifies the critical of timely completion due to subsequent plans that cannot be delayed. Time is the duration for completing the project. It is scheduled to enable the building to be used to a date determined by the client's future plans (Hatush & Skitmore, 1997).

Construction time is the absolute time that is calculated as the number of days/weeks from start on site to practical completion of the project. According to Hussin, Abdul & Memon, (2013), achieving completion of construction projects on time is a basic requirement for a successful construction. Aftab, Ismail and Ade, (2012) Carried out a research on time performance in construction projects in southern and central regions of peninsular Malaysia. The findings of this study revealed that 92% of construction projects were exposed to time overrun and only 8% of project could achieve completion within contract duration, in collaboration with Aftab, Ismail and Ade, (2012).

Lekan, Dosumu and Opeyemi, (2017) carried out a research on time performance information of building projects in developing economy, in Nigeria. The finding of this study showed that variables like rising prices of building materials, inclusion of additional work as a result of client's request, deterioration in economic situation were identified as the top causes of variation in construction projects from developing countries.

MANAGEMENT TECHNIQUES USED TO MITIGATE TIME OVERRUN

Delays to the projects can be reduced by applying measures which can be reflected as mitigation of time overrun. This mitigation of delays is possible only by re-sequencing of the works where ever possible and without increasing the resources and manpower. The work that can be achieved without any additional cost to the project is the mitigation (Itsiao & Lin, 2003). Assaf & Al-Hejji, (2006) suggested some recommendations that pointed out by all parties which are the contractors, consultants and owner to minimize and control delays in construction projects. Owners should give special attention to the following factor: pay progress payment to the contractor on time because it impairs the contractor's ability to finance the work, minimize change orders during construction to avoid delays, avoid delay in reviewing and approving of design documents than the anticipated, check for resources and capabilities before awarding the contract to the lowest bidder. Contractors should consider the following factors: shortage and low productivity of labour: enough number of labours should be assigned and be motivated to improve productivity, financial and cash-flow problem: contractor should manage his financial resources and plan cash-flow by utilizing progress payment, planning and scheduling: they are continuing processes during construction and match with resources and time to develop the work to avoid cost overrun and dispute, site management and supervision: administrative and technical staff should be assign as soon as project is awarded to make arrangements to achieve completion within specified time with the required quality, and estimated cost. Consultant should look to the following points: Reviewing and approving design documents: any delay caused by the consultant engineer in checking, reviewing and approving the design submittals prior to construction phase could delay the progress of work, inflexibility: consultant should be flexible in evaluating contractor works, compromising between the cost and high quality should be considered, producing design documents on time: Architect or Engineer should set a schedule to complete design document on time otherwise result to a delay in work completions. Also Abbas, (2006) in his study of causes and effect of delay in Aceh construction industry, Indonesia suggested some method which can be employed to minimize construction delay.

A total of thirty-five method of minimizing delays were identified in his study. The most effective method of minimizing delays identified are to: ensure adequate and available sources of finance until project completion, competent project manager, availability of resources, frequent progress meeting, awarding bid to the right or experience consultant and contractor, use of experience subcontractor and suppliers, multidisciplinary or competent project team, accurate initial cost estimates, competent and capable of client representative, use of appropriate construction method perform a pre-construction planning of project task and resource needs, and project management assistance.

Furthermore, Koushiki, (2005) recommended some suggestions which could be used to minimize time delays. He suggested that the owner or client should ensure adequate and available sources of finance perform a pre-construction

planning of project task and resource need, allocate sufficient time and money on the design phase, select a competent consultant and a reliable contractor to carry out the work.

Generally, the techniques used to mitigate time overrun are effective strategic planning, perform a preconstruction planning of project tasks and resource needs, developing human resources in the construction industry, frequent progress meeting, use of experienced subcontractors and suppliers, use of appropriate construction methods, use up to date technology utilization, clear information and communication channels, frequent coordination between the parties and focus on client's need. Also close monitoring of the project, adoption of tools and techniques, proper payment from client, use of experienced project team and competent project manager.

III. RESEARCH METHOD

This study set out to assess management of time overrun in a selected building construction projects in Auchi Polytechnic Auchi, Edo State. The study adopts mixed method research because survey and secondary data were used to collect data. The population for the study were building projects carried out from 2010 to 2018 in Auchi Polytechnic, Auchi. Ten selected projects were used after a thorough preliminary investigation which reveals that archival information was readily available. The respondents for the questionnaire part were the construction professionals and contractors that were involved in these selected projects. The findings from pilot survey showed the number of construction professionals and contractors (Architects, Quantity Surveyors, Engineers and Builders) that were involved in the projects to be sixty five (65). For the purpose of this study, purposive sampling was employed in the selection of the building projects. This technique was employed because building projects were selected based on the availability of adequate information. The questionnaire was divided into two sections; the preliminary section of the questionnaire dwelt on the background information of the respondents while the other section focused on matters relating to the research objectives. Questions inherent in the structured questionnaire were multiple-choice type with different checkboxes and tables posed on a 5-point likert-type scale for ease and uniformity of response. Out of sixty five (65) questionnaires administered, fifty two (52) questionnaires were returned and considered suitable for analysis which represented a healthy return rate of eighty percent (80%). The analysis of the collected data was carried out using percentiles, paired-sample t-test and mean item score. The background information of the respondents was analysed using percentiles, paired sample t-test was employed to test the significant difference between the initial and the final estimated time while mean item score was used to analyse identified causes of time overrun and identified mitigating measures of time overrun.

MEAN ITEM SCORE (MIS)

Mean item score was used to rank the causes of time overrun. The premise of decision for the ranking is that the causes with the highest mean item score is ranked 1st and others in such subsequent descending order.

The formula for mean score is = $\dfrac{\sum (FX)}{N}$

Where X is the rating used per column
F is the sample size for each rating and
N is the total sample size.

Since a Likert of 5-point scale was employed for the collection of data, the formula can thus be

Written as;

Mean Score $= \dfrac{5F_5 + 4F_4 + 3F_3 + 2F_2 + F_1}{N}$

Cronbach's reliability test was used to test the reliability of the questionnaires. Creswell (2013) noted that for all the items of an instrument to be internally consistent and reliable, the result of the reliability test should produce a minimum Cronbach's Alpha of 0.7. In this study, all the items of the three variables were subjected to the reliability test. The results according to Creswell (2013) suggested that all the items are good and consistent internally because the Cronbach's Alpha coefficient for the items were 0.7 and above. The results are presented in Table 1 below.

Scale of Measure	Cronbach α– Value
Identified causes of time overrun	0.733
Time Performance	0.892
Mitigating measures of time overrun	0.912

Table 1: Test of Reliability for Measuring Scale

IV. RESULTS

Category	Classification	Frequency	Percent
Profession of Respondent	Quantity surveyor	10	19
	Architect	10	19
	Builder	13	25
	Engineer	17	33
	Others specify	2	4
	Total	**52**	**100**
Professional Body of Affiliation	NIA	8	15
	NIQS	9	17
	NIOB	12	23
	NSE/COREN	16	31
	Others	7	14
	Total	**52**	**100**
Professional Membership Type	Graduate/Probationer	15	29
	Corporate	37	71
	Fellow	0	0.0
Total		**52**	**100**
		Frequency	Percent
Highest Academic Qualification of Respondent	HND	10	19
	B.sc/B.Tech	20	38
	PGD	7	14
	M.sc/M.Tech/M.Eng	13	25
	Phd	2	4
	Total	**52**	**100**
Years of working	1-5 years	4	8
	6-10 years	8	15

Experience	11-15 years	14	27
	16-20 years	18	35
	Over 20 years	8	15
	Total	**52**	**100**

Table 2: Summary of Background Information of the Respondents

Table 2 shows that majority of the respondents 33% participated in survey were Engineers, followed by Builders with 25%, Quantity Surveyors and Architects had 19% each, while others were 4% of the respondents. Table 2 shows all the respondents were affiliated to relevant professional bodies in their respective professions, out of which 79% of them have attained corporate membership grade while 21% of the respondents were graduate/probationer members of their respective bodies. It shows that they are capable of providing vital information on the objectives of this research. Table 2 also reveals that 38%, 25% and 14% of the respondents had B.Sc/B.Tech, M.Sc/M.Tech and PGD degrees respectively. About 19% were HND holders, while 4% have PhD. The average number of years of experience possessed by the respondents was 14 years, therefore, the respondents are considered adequate and reliable for this research.

Identified causes	Mean	Std. Deviation	Rank
Omissions in contract document	4.68	.694	1
Design changes by owners during construction	4.40	1.128	2
Inadequate feasibility studies	4.35	.834	3
Inaccurate estimate	4.30	1.091	4
Price inflation	4.28	1.012	5
Work suspension by the owner	4.25	1.104	6
Financing of and payment for completed project	4.25	1.080	7
Poor workmanship	4.23	1.121	8
Inadequate planning of project before take off	4.20	1.203	9
Material shortage	4.13	1.181	10
Contractors financial difficulties	4.13	.883	11
Poor site management by the contractor	4.10	.591	12
Price fluctuation	4.05	1.431	13
Equipment shortage	4.05	1.085	14
Disagreement of the valuation of work	4.03	1.310	15
Lack of communication between parties	4.03	1.121	16
Late delivery of materials	4.00	1.281	17
Manpower shortage	3.95	1.413	18
Poor weather condition	3.93	1.047	19
short-cuts and construction mistake	3.80	.966	20
Information gaps	3.78	1.121	21
Rainy weather	3.75	1.532	22
Slow decision making	3.73	1.261	23
Sub-contractors incompetency	3.70	.939	24
Manpower labour skills	3.63	1.275	25
Procurement method	3.60	1.317	26
land acquisition	3.53	1.240	27
Compensation issues	3.48	1.012	28
Lack of mechanism for recording	3.45	1.011	29
Carelessness in handling materials	3.43	1.196	30

Table 3: Identified causes of time overrun

Table 3 shows the respondents assessment of the identified causes of time overrun. Omissions in contract document ranked 1st with a mean score of 4.68, design changes by owners during construction ranked 2nd with a mean score of 4.40, inadequate feasibility studies ranked 3rd with a mean score of 4.35, inaccurate estimate ranked 4th with a mean score of 4.30 and price inflation ranked 5th with a mean score of 4.28 while the least factors were compensation issues, lack of mechanism for recording and carelessness in handling materials with a mean score of 3.48, 3.45% and 3.43% respectively.

Project	Final time(weeks)	Initial time(weeks)	Deviation	Percent
1	60	60	0	0.00
2	22	22	0	0.00
3	62	48	14	29.00
4	30	28	2	7.00
5	18	20	-2	-10.00
6	18	18	-0	0.00
7	16	8	8	100.00
8	38	26	12	46.00
9	52	2	24	86.00
10	12	8	4	50.00
Total	**328**	**266**	**62**	**308**
Mean	**32.80**	**26.60**	**6.20**	**44.00**

Table 4: Time performance of building projects in Auchi polytechnic

Table 4 shows the analysis of secondary data collected on the initial and final contract duration for individual project to determine the level of time performance and the rate of time overrun experienced on each project. From Table 4, it can be seen that out of the 10 projects assessed, 2 projects were completed within the estimated time, while the remaining 8 exceeded the initial estimated time of construction with a percentage deviation of within 7% to 100%. On the average, there is a 44.00% deviation of completion time of construction from the initial estimated time of construction of all assessed projects. This implies that most building projects in the study area were not completed within specified time thus have time overruns.

	Paired Differences						T	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pair 1 Final-Time - Initial-Time	6.20000	8.29726	2.62382	.26450	12.13550		2.363	9	.042

Table 5: Paired sample t-test for Time performance of Construction Projects

Paired sample t-test was further conducted on the time data of the assessed construction projects. Result in Table 5 shows a t-value of 2.363, df of 9 and a p-value of 0.042. Since this p-value is less than 0.05, it therefore means that there is a significant difference between the initial estimated and the completion time of construction projects.

Identified mitigating Measure	Mean	Std. Deviation	Rank
Effective planning strategy	4.80	.564	1
Availability of resources	4.75	.543	2
Accurate initial cost estimate	4.63	.783	3
Proper payment from client	4.63	.586	4
Clear information and communication channels	4.55	.714	5
Use of experienced project team	4.55	.679	6
Use of up to date technology utilisation	4.55	.597	7
Competent project manager	4.53	.639	8
Close monitoring of the project.	4.48	.933	9
Use of appropriate construction methods	4.48	.905	10
Competent and capable client representative	4.43	.747	11
Perform a preconstruction planning of project and resources need	4.43	.675	12
Frequent progress meeting	4.38	.667	13
Awarding bid to the right/experienced contractor	4.35	.700	14
Hire skilled workers	4.33	.829	15
Adoption tools and techniques	4.23	.920	16
Use of experienced subcontractors	4.18	.712	17
Minimise change order during construction	4.15	.770	18
Focus on clients need	4.13	.966	19
Provide knowledge to unskilled workers	3.80	.992	20

Table 6: mitigating measures of time overrun

Table 6 shows the mitigating measures of time overrun. Effective planning ranked 1st with a mean score of 4.80 followed by availability of resources which ranked 2nd with a mean score of 4.75, next to it is accurate initial cost which ranked 3rd, proper payment from client which ranked 4th, followed by clear information & communication channel and use up to date technology utilisation which ranked 5th and 6th respectively. The least factors were minimise change order during construction, focus on client's need and provide knowledge to unskilled workers which ranked 18th, 19th, and 20th with a mean score of 4.15, 4.13 and 3.80 respectively.

V. DISCUSSION OF FINDINGS

All the 30 causes rated by the respondents were found to be significant via mean item score, it is obvious that time overrun are bound to happen in construction. From the analysis, it can be seen that omissions in contract document, design changes by owners during construction, inadequate feasibility studies, inadequate planning of project before take, price fluctuation, inaccurate estimate, price inflation, work suspension by the owner and financing of and payment of completed project were the top causes of time overrun. The results of the study compared fairly well with those of previous studies. The results were in agreement with Odeh and Battaineh (2002) that improper planning, inaccurate estimates, slow decisions making, work suspension by the owner and material shortage were among the top ten causes of time overrun. Similarly, the results also agreed that inadequate funds before take-off, financial difficulties of contractors and delayed payment to suppliers and subcontractors were the critical causes of time overrun. Majid (2006) found that poor site supervision, inadequate modern equipment and incompetent project team were among the major causes of time overrun. Odeyinka and Yusif (1997) affirmed that poor site supervision, weather conditions and conflicts were major causes of time overrun. However, the results were in disagreement with Vaardini and Subramanian (2015) who concluded that the most critical causes of time overrun were building permit approval, change orders, inspections and approval of shop drawings.

It can be seen from the analysis that out of the 10 projects assessed, 3 projects were completed within the estimated time, while the remaining 7 projects exceeded the initial estimated time of construction with a percentage deviation within 7% to 100%. On the average, there is a 44.00% deviation of completion time of construction from the initial estimated time of construction of all assessed projects. This implies that most of building projects in the study area were not completed within the specified time thus has time overruns. This re-affirms the findings of Assaf and Al-Hejji (2006) that in Saudi Arabia, 76% and 56% of the participating contractors and consultants respectively indicated that, average time overrun experience in their project was ranging between 10% and 30% of the original project duration. This is also in line with Aftab, Ismail and Ade (2012) who argued that the amount of time overrun of construction projects in Malaysia was between 5-10% as agreed by respondents while construction projects encountered an overrun average of 23.74% of contract duration. It reported that the minimum average percentage escalation period of projects in Nigeria was found to be 188%. Ayalew, Dakhli and Lafhaj (2016) further supported that 92% of construction projects in Ghana experienced time overrun of 61-80%. The study also buttressed the findings of Odusami and Olusanya (2000) who agreed that projects executed in the Lagos metropolis experienced an average delay of 51% of planned duration for most projects.

In assessing the possible way by which time overrun can be reduced, certain measures were identified and respondents were asked to rank them base on their level of significance. Result in Table 6 shows the ranking of these measures. Mean item score was used in ascertaining the significance of the measures. Effective planning strategy, availability of resources, accurate initial cost estimate, proper payment from client, clear information and communication channels, use up to date technology utilization and use of experienced project team were the most important mitigating measures of time overrun. The results of the study compared fairly well with

those of previous studies. The finding is in line with Assaf and Al-Hejji (2006) that in Saudi Arabia, clear information and communication channels, proper payment from client, competent project manager, and use of appropriate construction methods and availability of resources were the most important. Furthermore, the finding is in disagreement with Vaardini and Subramanian (2015) who concluded that awarding bid to the right/experienced contractor, use of experienced subcontractor, focuses on clients need, adoption of tools and techniques and hire skilled workers are the most important mitigating measure of time overrun.

VI. CONCLUSION AND RECOMMENDATION

This study has been conducted in order to assess the management of time overrun with a view to enhancing the timely delivery of building projects, using selected building projects completed in Auchi polytechnic. After a careful literature review, several causes and mitigating measures of time overrun were identified and ranked by the study sample. Furthermore, assessment of ten completed building projects was carried out to determine the level of time performance of each building project. From the result, the following conclusions emerge. Building projects in the study area experienced a good time performance of 56% but exposed to an average time overrun of 44.00%. Also there is significant difference between the initial estimated time and completion time of the projects executed. Delays in delivery projects on schedule have become serious for both parties involved. The impact of project time overruns include, construction time which is out of control and add to investment pressure, investment decision making, wastage of national finance might result in corruption or offence.

In the light of the discussion, findings, implications, and the conclusions, the following recommendations are hereby coined. Full consideration should be given to projects from inception to completion, adequate and effective consultancy services for clients, as well as strict follow up of programme of study will help construction firms to reduce the high incidence of delays in the completion of projects and thereby increase efficiency in the use of resources. Projects sponsored must be financially committed to construction projects because without proper funding, projects will experience time overrun and in some cases project abandonment.

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