FACTORS AFFECTING TIME AND COST PERFORMANCE OF ROAD CONSTRUCTION PROJECTS IN NIGERIA

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ABSTRACT

Purpose: This paper assesses factors affecting the timely completion and cost performance of road construction projects in Ekiti and Ondo states, Nigeria.

Design/Methodology/Approach: Purposive sampling method was used to select the administered 131 copies of questionnaires to the respondents from a frame of 223, comprising clients, registered contractors with the ministry of consultants and workers; who were corporate members with their professional body. Their responses were analysed using SPSS 24 and presented in simple descriptive and Percentile tables. The study adopted the use of Spearman's rank correlation to analyse the association between initial contract sum and actual completion cost (r = 0.951, p < 0.01).

Findings: The result of the study revealed that inadequate equipment, inadequate managerial skills, project construction complexity, failure of equipment and shortage of materials were the important factors affecting the timely completion/performance of road construction projects in Nigeria. The research also revealed that inflation, inaccurate estimate, fraudulent practices, contractors' project inexperience, inadequate planning and overdesign were the important factors aligned with the cost performance of road construction projects.

Implications/Research Limitations: The present study focused on the performance of time and cost in construction projects.

Practical Implications: Clients and their consultants in the study area should safeguard they award road contracts to competent contractors.

Social Implications: The research made the recommendation for the government at all levels to reduce the rate of inflation, and ensure stability in the prices of construction materials.

Originality/Value: The study further revealed that a strong positive correlation between the initial contract sum of the project and the actual completion cost of road construction exists.

Keywords: Cost performance, projects, road construction, sustainability, time

1.0   INTRODUCTION

The well-timed completion of a project is solitary the goals of clients and contractors. This is because there is the propensity to lose potential income and incur additional costs. The identical problem of time and cost overruns characterize construction projects in most of the world particularly in Developing Countries (DCs) like Nigeria (Ogunsemi, 2002). Similarly, Odeyinka (1993) observes that, in Nigeria, cost and time overruns are frequent occurrences in the industry of

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construction, which have continued unabated. Gardiner & Stewart (2000), attested to excess reports on time and cost overruns on projects and observed that about 63% of all projects surveyed in Nigeria meet substantial budget overruns, typically between 40 and 200 percent (Okosun, Oluwajana, Johnson, Abel & Oluwookere, 2021). The problem cuts across the globe, but with varying degrees in different countries of the world. For instance, a study by Chan & Kumaraswmy (1996), reveals that, in Australia, seven-eight percent of surveyed building contracts in the 1960s were completed after schedule. In Saudi Arabia, Al-Khalil & Al-Ghafly (1999) affirmed that building contractors opine that, 37 per cent of every project was subject to delay, whereas, in Hong Kong, 70.0% of construction projects were delayed. In Nigeria, Odeyinka &Yusif (1999) revealed that 7 out of 10 residential projects investigated suffered delays in implementation. Ogunsemi (1997) opines that a lot of factors emanating from the clients, consultants, constructors, the economic climate of the country, government policies and even natural occurrences affected the initial cost and time frame of construction projects. Kaming, Olomolaiye, Holt, Harris, (1997) opine that DCs, such as Indonesia and Nigeria suffer construction costs and time overruns. To curtain the menace of time and cost overruns, Wright (2007) suggested that, a minimum of fifty per cent should be added to each cost and time estimate of the budget respectively to achieve a high-quality rule of thumb.

The study by Frimpong, Oluwoye, & Crawford, (2003), revealed that cost performance presents a contractor project success. Cost performance accounted for the profit and productivity of firms during construction processes (Ismail, Aftab, & Ahmad, 2013). The World Bank reported that sixty-three per cent of the 1778 construction projects investment faced pitiable performance with an overrun in the budget at an average of forty per cent (Ameh, Soyingbe, & Odusami, 2010). To explore the difficulty in terms of cost performance in construction projects worldwide, research analysts such as Flyvbjerg, (2014) found that, a cost boom was a frequent occurrence, accordingly nine, out of every ten road construction projects with an average of twenty-eight percent higher than predicted costs. They concluded that the average cost escalation in North America was approximately twenty-four per cent, while in Europe approximates twenty-six per cent and in other geographical areas was sixty-four per cent. Accordingly, the performance of time and cost in construction projects has not improved over time. From the foregoing, this research seeks to evaluate the determinants affecting the cost and time performance of road projects in southwestern Nigeria with a focus on Ondo and Ekiti states.

2.0   THEORIES UNDERPINNING THE STUDY
2.1   Cost and time performance of road construction projects
A project is considered successful if it is finished on schedule, on budget, and to the quality standard stipulated by the client at the start of the project (Chan & Kumaraswamy, 1996). In line with this submission, Aje, Adedokun, & Ibironke, (2014) opine that the cost performance of a construction project is an essential indicator of project success, while the study of Thomas, Smith, Cummings, (1995) noted that, construction time has long been regarded as one of the most important indicators of a project's success and the effectiveness of its management. Several factors related to time and cost vary with the types of the construction project, size, scope of the project and location. On the other hand, poor cost construction on projects is a major concern of contractors and clients. Vitalis & Najafi (2000) reiterated that cost and time overruns have been a major problem in every

construction project. In Nigeria, Ogunsemi & Jogboro (2006) revealed that several ongoing and completed construction projects are generally characterized by cost and time overruns, disputes and abandonment, substandard work emanating from several factors, including the wrong choice of contractors. Choosing the right construction contractor boosts the odds of completing projects on time and budget, as well as meeting the client's goals of cost, time, and quality. During the tendering process, construction contractors are frequently chosen. Accepting the lowest price, according to Hatush & Skitmore (1997b), is the root cause of project completion issues because lowering the price often entails lowering the quality. From the above condition, the contactor's disposition to act under tasks assigned to him. However, the sources and causes of road construction delays are presented in Table 1.

Table 1: Available causes and sources of project construction delays

S/n	Sources	Indicators for project construction Delays	Projects affected	
			No.	% of Total
i.	Owners of projects	1.1 Alter orders	5	41.7
		1.2 Slow verdict-making	4	33.3
ii.	Designers of projects	2.1 Unfinished drawings	9	75.0
		2.2 Sluggish response	8	66.7
iii.	Construction board/management or Inspector	3.1 Deficiencies in organization	4	33.3
		3.2 Deficiencies in harmonization	3	25.0
		3.3 Uncompromising attitude	3	25.0
		3.4 Delays process in work approval	2	16.7
iv.	Service providers (contractors) of project	4.1 Equipment management problems	9	75.0
		4.2 Deficiencies in organization	9	75.0
		4.3 Coordination deficiency	8	66.7
		4.4 Planning and forecast problems	7	58.3
		4.5 Materials allocation problems	5	41.7
		4.6 Monetary problems	4	33.3
		4.7 Inadequacy of site inspection	4	33.3
v.	Resources suppliers of project	5.1 Deficiency of construction materials	11	91.7
		5.2 Delayed delivery	6	41.7
		5.3 Cost escalation	2	16.7
		5.4 Low quality of materials	2	08.3
		5.5 Deficiency of site workers	9	75.0
		5.6 Inadequancy of technical personnel	6	41.7
		5.7 Inadequate equipment	7	58.3
		5.8 Frequent collapse of equipment	3	25.0
vi.	Others	6.1 Restricted site	6	41.7
		6.2 Problems with neighbours	3	25.0
		6.3 Delay of permits by government agencies	2	16.7

Source: Ogunlana et al, (1996) in Okosun et al (2021).

Roads in Nigeria are designed to provide safe passageways for vehicles, as such must be properly constructed to standards (Okosun, et al., 2021). The current situation of the Nigerian roads after construction is that they deteriorate with age due to use and lack of maintenance culture on the part

of the government (Okosun & Olujimi, 2016). Therefore, the need for road rehabilitation, re-designed, upgrading is inevitable, to ensure the safety and property of citizens. Durability and strength are indicators of cost and time overrun of road construction projects, that required standard quality materials and experts. Similarlly, Falade, (2013) reported that a situation where roads are not adequately built, maintained and well-designed, will results in functional and degeneration to structural defects of that area, therefore may require reconstruction or rehabilitation. According to Ogunsemi, (2002), roads deterioration depends on the rate and quality of materials used and supervision during construction. Despite its immense potential for expansion and development, the Nigerian road industry has not performed satisfactorily (Ogunsemi, 2002). As quoted by Okosun et al., (2021), "It is not strong economies of a country or state that give good roads; but rather, it is good roads that give rise to strong economies of a country or state**".** According to Ogunlana, Promkuntong, Jearkjirm, (1996), contractors working on projects in the developing world encounter infrastructure issues, which include; frequent changes in instructions and information, material supply, training of personnel, communication and plant availability.

2.2   Major sources and causes of project construction delays
Owners of projects
The study of Ogunlana et al., (1996) identifies change orders as the most recurrent cause of construction delays for the construction owners. Thus, delays from construction owners might be of 2 forms: deliberate policy and obligatory delays. In private projects, change orders arise often as private owners were of the habit of altering the financial climate, to meet client demands or for marketing rationale. The owners in this regard, requested adjustments, habitually a short notification, in this manner, contradicting the plans of the contractor. Several change instructions may be of large magnitude, necessitating extensive remodel. Construction owners in the case of Nigeria were accused of being slow and often delayed in making the decision. For example, contractors waste resources in the crucial moment of the projects, in an attempt to wait for the owners to decide on materials and suppliers.

Designers of projects
The dilemma of site personnel delegated to design projects was intensified as a common problem in the construction industry (Ogunlana et al., 1996). There was agreement that design-related delays were caused by two key factors. First, site staff delegated by design practices are frequently inexperienced and, in many cases, were not involved in the original design. As a result, no changes can be made without consulting design offices. Second, due to a lack of design professionals, design offices give new projects a higher priority than existing projects when allocating employees. As a result, unskilled site staff are assigned to industrial construction projects.

Construction management/board and inspection team of projects
The site construction board/manager is charged with the responsibilities of safeguarding that all jobs/work align with the drawings, specifications and standards, as well as coordinating parties' activities in the project. Generally, contractors are typical in the habit of finding faults in the construction manager (Ogunlana et al., 1996). Contractors mostly feel many of the construction board/management personnel are often incompetent. Following the construction executive staff, sequence of work, and inspection teams were in waiting practice to be approached to accept project

works. Last-minute disapprovals oftentimes were the reason for project delays, this has wasted the contractors' resources. In addition, frequently complain of communication line exists between projects contractors and designers. In this case, poor understanding of questions posed to the designers by the contractors was cited. In this circumstance, the designers had to seek clarification asked by the contractors through the construction manager. The designer then had to seek the questions' clarification being enquired by contractors through the CM. This situation, for instance, elongates the communiqué of the duration (time) of construction projects (Ogunlana et al., 1996). Therefore, the process will be more beneficial to building contractors rather than the inspection of the product.

Contractors

In most construction, contractors are held responsible for project delays. These include: i) Finance*, ii)* planning and scheduling, iii) site organization, iv) Materials management, v) inadequate equipment, vi) inadequate managerial skills: Three most common skills include: a) human skills; b) technical skills; and conceptual skills (www.businessdictionary.com); vii) project complexity: viii) failure of equipment, ix) fraudulent practices. Studies carried out by Aje et al., (2014) and Okosun et al (2021) centred on time and cost models, as well as engineering projects with no major concerns on factors affecting road construction projects in Ondo and Ekiti, states Nigeria. This research attempts to update existing works of literature.

3.0   RESEARCH METHODOLOGY

As the current research is concentrating on the factors affecting road projects in Ekiti and Ondo states Nigeria, a research survey technique was adopted for use. However, two hundred and twenty-three (223) respondents in Ekiti and Ondo states Nigeria comprised sixteen clients, 120 project consultants; who were corporate members with their respective professional bodies and eighty-seven certified contractors with the ministry of work (Ekiti and Ondo states. Nigeria) constituted the research population for this study (See Table 2).

Table 2: Sampling of respondents (Ondo and Ekiti states Nigeria)

Ref/ No	Respondents	Ondo	Ekiti	Total No. of respondents	Questionnaires administered
A	Client	8	8	16	14
B	Contractors	52	35	87	59
C	Consultants	35	85	120	58
	Total	95	128	223	131

The responses obtained from the completed set of questionnaires and Pro-forma was adequate for the study which constituted a total of 131 sets of questionnaire, systematically disseminated to fourteen clients, fifty-nine contractors and fifty-eight consultants who were directly engaged in road construction. The questionnaires copies were certified fit and retrieved for analysis. Instead, for past road projects' secondary data, 70 Pro-forma sheets were disseminated in Ekiti and Ondo states, and 55 were considered appropriate and collected for the analysis.

The required population size was retrieved from existing data at ministries of work in both Ekiti and Ondo states. Information regarding the list of past road projects of the research environment, such

as; the type of road project, initial road project time, the actual time of completion; the initial cost of the road projects and the final total cost of road construction projects were retrieved and use. The respondents comprise Civil Engineers (client's representatives) who also double as corporate members of the Nigerian Society of Engineers who were registered contractors of the study area. Since it was economically and logistically impossible to accumulate data from all the existing road construction industries within the states. The purposive/judgemental sampling technique was adopted for use following the submission of Teddlie & Yu (2007). It fit reasonably well for conducting social science research. However, this study adopted a well structured closed questionnaire for the primary data collection, while the Pro-forma sheet was used to collect variables on cost and time information (archival data) of past road construction. The questionnaire administered to the participants was useful in assessing the factors affecting the time and cost of past road projects. This was administered by the authors in collaboration with some professionals within the study area.

The responses obtained from the completed set of questionnaires and Pro-forma was adequate for the study. About 131 copies of questionnaires were disseminated to fourteen clients, others includes fifty-nine contractors and fifty-eight consultants engaged in road projects in the research area. Sixty-four copies of the administered questionnaires were retrieved for the research analysis and set data, thus representing a fourteen-eight per cent response rate. About 55 were considered suitable and collected for the analysis. Data were derived from secondary sources with the aid of seventy Pro-forma sheets distributed.

The use of SPSS version 19 was used to analyse the data presented in simple descriptive tables, while the mean scores and ranking were used for the analysis of the set data. However, the test of the relationships between the stated variables was carried out, using Spearman's rank correlation.

4.0   RESULTS AND DISCUSSION

The background information of respondents (clients, consultants and civil engineers) as shown in Table 3, revealed that the majority (44.6%) of the respondents in the study area have a Higher National Diploma (HND), followed by those with a Bachelor of Science//Technology degree in different field of studies. The majority of the respondents (31.25%) in the study area are corporate members of their respective professional bodies such as the Nigerian Society of Engineers with the majority (61.5:% having above 6 years of experience in the industry. In the study area, those involved less than 11 road construction projects accounted for 60.0%.
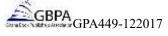
Table 3: Background information on the respondent in Ondo and Ekiti states Nigeria

Category of respondents	Classification of respondents	No	%
Highest academic attainment/qualification	Higher National Dip	29	44.6
	Bachelor of Science/Tech	28	43.1
	M. Sc./M.Tech	4	6.2
Professional Qualification	Probationer Member	18	28.12
	Corporate Member	20	31.25
	Fellow Member	4	6.25
Construction Experience (In years)	0 – 5	5	7.7
	6 – 10	40	61.5
	11 – 15	13	20.0
	16 – 25	5	7.7
	Over 25	1	1.5
	**Mean: 10		
No. of road projects Involved from inception	1 – 10	39	60.0
	11 – 20	15	23.1
	21 – 30	3	4.6
	Over 40	6	9.2
	**Mean: 9		
Type of organization	Private client org.	1	1.5
	Consulting org.	1	1.5
	Governmental org.	45	69.2
	Public client org.	5	7.7
	Contracting org.	12	18.5

Major factors affecting the time performance of road projects in both Ekiti and Ondo states

Table 4 showcases the mean scores and ranking of determinants affecting the time performance of road projects in the study area. The rankings of the identified factors were done by the respondents; who are clients, contractors and consultants within the study area. The contractors ranked inadequate managerial skills and inadequate equipment 1st, while unforeseen ground conditions, unrealistic contract durations imposed by the client and failure of equipment were ranked 3rd, 4th, and 5th respectively. On the other hand, in the view of the consultants, project construction complexity and inclement weather were ranked 1st while inadequate managerial skill, delays in design information and inadequate equipment were ranked 3rd, 4th and 5th respectively. Moreover, the clients ranked inadequate equipment 1st, project construction complexity, inadequate managerial skill and inclement weather 2nd and the deficiencies in planning on the part of the contractors, delays in design information and failure of equipment were ranked 5th. Both the contractors and the clients agreed by ranking inadequate equipment 1st representing 4.42 and 4.57 respectively. Road project construction complexity and inclement weather were ranked 1st (4.26) by the consultant. Inadequate managerial skills were ranked 1st, 3rd and 2nd by contractors, consultants and clients respectively. Inadequate equipment was raked 1st, 5th and 1st by contractors, consultants and clients respectively. Failure of equipment was ranked 5th, 6th and 5th by contractors, consultants and clients respectively.

This shows both the contractors and the clients share the same view by ranking failure of equipment 5th. Shortage of materials was ranked 6th, 7th and 10th by contractors, consultants and clients respectively.

From the general opinion, inadequate equipment, inadequate managerial skills and project construction complexity are the first three most important factors affecting the actual time of completion of road projects in Ekiti and Ondo states, Other factors should as the failure of equipment, shortage of materials and delays in design information with an average mean score of 4.12, 4.00 and 3.98 respectively, The least factor was dispute/conflicts which ranked 23, with an overall mean of 3.06. The findings of the research are in agreement with Olawale and Sun (2010), which indicated that scanty planning before building project takeoff, scanty planning before construction project takeoff, insufficient finances for the road project, scanty equipment and tools and delay caused by material delivery in most cases top the list on causes of time performance and project overrun. Lack of communication between clients and consultants, poor management of materials and disputes/conflicts were ranked as the least factors militating against the actual completion time of roads projects in the study area.

The implication of the aforementioned is that all the factors assessed, moderately influence the time performance of road construction projects in Ekiti and Ondo States (Okosun, et al., 2021) The reason is that, the total mean score was greater than 2.5, which was the midpoint of the 5-point Likert scale used in the research locale. Other factors such as inadequate equipment, inadequate managerial skills and project construction complexity highly influence time performance.

Table 4: Factors affecting time performance of road construction projects in Ekiti and Ondo states, Nigeria

Factors	Contractor		Consultant		Client		Overall	
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
Inadequate equipment	4.42	1	4.15	5	4.57	1	4.34	1
Inadequate managerial skills	4.42	1	4.19	3	4.29	2	4.30	2
Project construction complexity	3.96	8	4.26	1	4.29	2	4.15	3
Failure of equipment	4.10	5	4.13	6	4.14	5	4.12	4
Shortage of material	4.04	6	4.04	7	3.86	10	4.00	5
Delay in design information	3.68	17	4.16	4	4.14	5	3.98	6
Inclement weather	3.46	19	4.26	1	4.29	2	3.97	7
Improper control over site resources allocation	4.00	7	3.85	9	4.00	9	3.94	8
Deficiencies in planning and scheduling by contractors	3.79	11	3.88	8	4.14	5	3.90	9
Unforeseen ground conditions	4.17	3	3.63	13	3.86	10	3.88	10
Low productivity of labour	3.70	15	3.77	10	3.86	10	3.76	11
Unrealistic durations imposed by client on the contract	4.11	4	3.54	14	3.57	17	3.73	12
Slow flow of information between project team members about the project	3.48	18	3.54	14	4.14	5	3.65	13

Inadequate managerial and supervisory site personnel	3.88	9	3.54	14	3.29	21	3.61	14
Unsuitable administration structure and style of project contractor	3.74	13	3.42	19	3.71	13	3.60	15
Client's initiated variations	3.33	21	3.67	11	3.67	16	3.55	16
Excessive bureaucracy in the client's organisation	3.74	13	3.27	21	3.71	13	3.54	17
Delay in settlement of contractor's claim by the client	3.70	15	3.46	18	3.43	19	3.54	17
Required variation of works	3.42	20	3.52	17	3.57	17	3.49	19
Lengthy waiting time for approval of drawings of work	3.13	22	3.64	12	3.71	13	3.47	20
Gap in communication between consultants and client	3.79	11	3.38	20	3.00	23	3.42	21
Poor management of materials	3.83	10	2.96	23	3.29	21	3.35	22
Dispute/conflicts	2.75	23	3.16	22	3.43	19	3.06	23

The information derived from this study was consistent with Aibinu & Jagboro (2006), who recognized contractors' incomplete drawings, financial problems, breakdown of equipment and late materials delivery, including planning problems as the main factors affecting project time.

Factors affecting cost performance of road construction projects in Ekiti and Ondo states
The rankings of the identified factors as shown in Table 5 were done by the respondents; who are clients, contractors and consultants within the study area. All the construction professionals (clients, contractors and consultants) agreed that inflation is the 1st factor that has a main effect on the cost performance of road projects in the study area. Contractor's project inexperience is ranked by the contractors, consultants and client as 4th, 8th and 3rd respectively; Inadequate planning is ranked 9th, 5th and 4th by the contractors, consultants and clients respectively, Fraudulent practices were ranked 8th, 4th and 8th by contractors, consultants and clients respectively, both the contractors and the clients rank fraudulent practices 8th. The first three factors identified by the contractors are; inflation, incessant variation order and change in project designs. The consultants identified inflation, project complexity and inaccurate estimate as the first three factors affecting the cost performance of road projects.

The mean score is 4.12, 4.02 and 4.02 respectively. On the other hand, the clients identified inflation, over design and contractor's project inexperience as the first three factors representing 5.00, 4.43 and 4.31 respectively. The finding is in agreement with Ogunsemi (2002) who also identified inflation as the first factor affecting the cost performance of projects. The least identified factor by the contractors is force majeure while both the consultants and the clients identified breach of local regulation as the least factor with a mean score of 2.67 and 2.86 respectively. Thus accepted as one of the factors affecting road construction projects in Nigeria. From a general opinion, inflation, inaccurate estimate, contractors' inexperience and fraudulent practices are the first three factors

affecting the awarded past road projects with an overall mean score of 4.25, 3.94 and 3.92 respectively, closely following is over design and project complexity.

Table 5: Factors affecting the cost performance of road projects in Ekiti and Ondo states, Nigeria

Factors	Contractor		Consultant		Client		Overall	
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
Inflation	3.96	1	4.12	1	5.00	1	4.25	1
Inaccurate estimate	3.73	7	4.07	2	4.00	10	3.94	2
Contractors project inexperience	3.75	4	3.89	8	4.31	3	3.92	3
Fraudulent practices	3.71	8	4.04	4	4.07	8	3.92	3
Inadequate planning	3.67	9	4.00	5	4.14	4	3.91	5
Over design	3.43	18	4.00	5	4.43	2	3.89	6
Project complexity	3.54	14	4.07	2	4.00	10	3.86	7
Incessant variation order	3.88	2	3.74	10	4.07	8	3.86	7
Unstable economy	3.14	22	3.93	7	4.14	4	3.70	9
Contractor's inefficiency	3.54	14	3.56	11	4.14	4	3.68	10
Material price fluctuations	3.35	20	3.81	9	3.86	12	3.66	11
Lack of executive capacity by employer	3.75	4	3.35	14	3.86	12	3.61	12
Poor workmanship	3.63	10	3.48	12	3.71	14	3.58	13
Unpredictable weather condition	3.63	10	3.22	18	4.14	4	3.57	14
Reduction in contract period	3.75	4	3.27	16	3.50	19	3.50	15
Change in project design	3.83	3	3.11	19	3.64	17	3.49	16
Inadequate financial provision	3.50	17	3.48	12	3.36	20	3.46	17
Project site location	3.41	19	3.33	15	3.57	18	3.41	18
Delay from employer	3.63	10	2.96	21	3.71	14	3.37	19
Force majeure	2.96	23	3.24	17	3.67	16	3.22	20
Unsteady material supply	3.54	14	3.00	20	3.00	21	3.20	21
Site conflicts	3.63	10	2.70	22	2.93	22	3.09	22
Breach of local Regulation	3.21	21	2.67	23	2.86	23	2.91	23

The findings of the research are in agreement with Jagboro (2005) who identified the major factors militating against cost as construction materials costs due to inflation. and degree of project complexity. The least factors are site conflict, breach of local regulation Some factors such as inaccurate estimates, increase inflation and contractors' project inexperience highly affect the projects of the research locale.

Correlation between final completion cost and initial project contract sum; actual completion time and contract duration of road construction in Ondo and Ekiti states, Nigeria

A total of fifty-three (53) contract data on past executed road projects collected from Ondo and Ekiti states were analysed as shown in Table 6, which illustrates the result of the correlation analysis between initial contract sum and completion cost. The table reveals that a strong positive correlation exists between the initial contract sum and actual completion cost ($r = 0.993$, $p < 0.01$). Table 8 also illustrated the result of the correlation analysis between the initial project contract duration and the completion time of road construction. The table revealed that there was a strong positive correlation between the initial project contract sum and the actual completion time of road construction ($r = 0.951$, $p < 0.01$). However, the implication of the strong positive correlation between the initial contract sum and the actual completion cost above was that, as the initial contract sum increases, the completion cost also increases. Similarly, there exists a strong constructive correlation between the variables, which implies that, as the initial contract duration increases, the final contract duration also increases.

Table 6: Relationship between the initial road contract sum and final completion cos of road construction

	Project contract sum	Final Completion Cost
Project Contract Sum	1	.993**
Final Completion Cost	.993**	1

**Significant at the 0.01 level (2-tailed)

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Table 8: Relationship between the initial project contract duration and final completion time of road construction

	Project Contract Duration	Final Completion Time
Project Contract Duration	1	.951**
Final Completion Time	.951**	1

**Significant at the 0.01 level (2-tailed)

5.0 CONCLUSION

This research has shown the determinants affecting the cost and time performances of road construction projects. From the study findings, it is concluded that the result of this research will assist in reducing cost and time overruns and project abandonment. The challenging factors of the cost and time performance of road construction projects are blamed on inflation, inadequate equipment, inadequate managerial skill, project construction complexity and failure of equipment are hinged on the incompetence of contractors handling the road projects who are the contractors, clients, and consultants within Ondo and Ekiti states. However, a strong positive correlation between the initial contract sum and the actual completion cost of the road exists. Similarly, there is a strong positive relationship (correlation) between the initial project contract duration and the final contract duration of road construction. Centred on those findings, the following references are proposed; (i) Clients and their consultants in the study area should safeguard they award road contracts to competent contractors. (ii) Adequate effort must be made available as to when due by the government at all levels, to lessen the rate of inflation and to ensure stability in the prices of construction materials.

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