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ORIGINAL RESEARCH ARTICLE

FACTORS AFFECTING TIME PERFORMANCE OF TERTIARY EDUCATION TRUST FUND CONSTRUCTION PROJECTS IN NORTH-EAST, NIGERIA

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ABSTRACT

Higher education institutions in Nigeria faced with the challenges of inadequate funding for the provision of facilities and rehabilitation of decaying ones. To address this issue, the Tertiary Education Trust Fund (TETfund) was established. However, it has been reported that, there are poor time performance of TETFund projects in tertiary institutions in Nigeria. This study was conducted to determine factors affecting time performance of Tertiary Education Trust Fund construction projects in north-east, Nigeria. Thirty-two (32) factors causing delay in construction projects were identified from the literature review. Data collection was carried out by means of survey questionnaire. One hundred and thirty-six questionnaires (136) were shared among construction professionals comprising of clients, contractors and consultants, 112 were returned completed representing 82% response rate. The data collected were analysed by means of frequency, severity index and Spearman's rank correlation. The results obtained revealed that, the most common delay factor in TETFund construction projects according to the three categories of the respondents is late procurement of materials. Similarly, there is consensus among the three categories of the respondents that type of project bidding and award is one of the most severe delay factors in TETFund projects. Clients and consultants pointed out that, factors with high impacts on time performance include ineffective planning and scheduling of project by contractor, poor site management and supervision by contractor, and shortage of qualified workers. Whereas, based on contractors' views, delay in progress payments by client has the highest impact. The study recommended that adequate planning and scheduling for all activities of project should be done by contractors at an appropriate time. The findings of this study can assist TETFund construction project team members to understanding factors that can significantly affect timely delivery of their projects.

1.0 Introduction

Generally, physical facilities in the tertiary institutions of learning are very important. It has been observed that, provision of adequate physical facilities in schools are essential towards improving academic performance of students (Ajayi and Ayodele, 2001, Musa and Ahmad, 2012; Akomolafe and Adesua, 2016). Similarly, Saeed and Kayani (2019) opined that physical facilities have impacts on the students' academic performance, safety and comfort. Musa and Ahmad (2012), added that adequate physical facilities of required standard which includes classrooms, lecture theatres, laboratories, workshops, ICT centers, studios, libraries, hostel, health centers, office accommodations among others, are necessary for effective learning and teaching.

However, despite the importance of physical facilities in improving academic performance of students, it has been reported that higher education institutions in Nigeria face challenges with regards to adequate funding for the provision of facilities and rehabilitation of decaying ones in various institutions, this affects students' performance (Isa and Yusoff, 2015).

To address the issues of funding for development of infrastructure, the Education Trust Fund (ETF) was established by the Educational Tax Act No. 7 of 1993. The Act imposed 2% tax on the accessible profits of all companies in Nigeria. In 2011 the Education Tax Act was replaced by the Tertiary Education Fund (TETFund) Act 2011 due to lapses and challenges in operating the ETF. One of such lapses was that, the ETF was overburdened and overstretched. The TETFund Act 2011 mandated the Fund to operate as an intervention agency in Nigerian tertiary educations (federal and States), to provide funding for educational facilities and infrastructural development in public tertiary institutions, with a view to ensuring rehabilitation, restoration and consolidation of Tertiary Education in Nigeria. The funds are disbursed for the general improvement of education in federal and states tertiary educations, and specifically for the provision or maintenance of essential physical infrastructure for teaching and learning among others (TETFund, 2020).

Despite efforts by TETFund in discharging its responsibilities, previous studies (Gambo *et al*., 2017, Aghimien and Aigbavboa, 2018, Zailani *et al.,* 2019) have reported that, there are poor time performance of TETFund projects in tertiary institutions in Nigeria. For instance, Aghimien and Aigbavboa (2018) found that, about 86% of the assessed TETFund projects experienced time overrun of 66% to 860%, with an average of 199% time overrun. Whereas Gambo *et al*., 2017 revealed that 43% of the TETFund projects studied were not completed within agreed time and cost. Thus, there is need to identify factors causing delay in TETFund projects.

The aim of this study is to evaluate factors that affect time performance of TETFund construction projects in tertiary institutions in northeast, Nigeria. The objectives of the study are:

i. To identify factors that affect time performance of construction projects.
ii. To evaluate frequency for the occurrence of the factors in TETFund construction projects in the tertiary institutions in north-east, Nigeria.
iii. To assess severity of the factors on time performance of TETFund construction projects in the tertiary institutions in north-east, Nigeria.
iv. To determine the impacts of the factors on time performance of TETFund construction projects in the tertiary institutions in north-east, Nigeria.

Previous studies (Aghimien and Aigbavboa, 2018; Zailani *et. al*., 2019) focused on assessing performance of some selected TETFund projects in Nigeria. However, limited studies if any were carried out to determine time overrun factors of the projects. Thus, this study addressed this gap. Generally, identifying time overrun factors will reduce cost overruns as well as potential claims between client and contractor (Chan and Kumaraswamy, 2002).

1.1 Factors Affecting Time Performance of Construction Projects

Several studies have been carried out to identify factors affecting time performance of construction projects. Study conducted by Assaf and Al-Hejji (2006), revealed 73 causes of delay in large construction projects. The identified causes were categorized into nine groups namely: factors related to project, client, contractor, consultant, design-team, materials, equipment, manpower (labor), and external factors. The study identified the most important causes of delay as shortage of labour, unqualified work force, inadequate contractors experience, difficulties in financing project by contractor, ineffective planning and scheduling of project by contractor, low productivity level of labour, rework due to errors during construction, delay in progress payments by client, original contract duration is too short, shortage of labour, delay in material delivery, poor site management and supervision by contractor, type of project bidding and award, poor qualification of the contractor's technical staff, change order by client during construction, slowness in decision making process by the client, late procurement of materials, mistakes and discrepancies in contract documents.

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Chan and Kumaraswamy (2002) presented the following as major factors causing delays in construction projects. These are: inclement weather, labour shortage/ labour low productivity, poor subcontractors' performance, variation, unforeseen ground condition, materials shortage/ late materials delivery, inadequate construction planning, financial difficulties of contractor, delays in design work, poor site management, impractical design, poor communication, inappropriate type of contract used, lack of designer's experience, and inaccurate estimating.
Gambo *et al.* (2017) identified the following as factors affecting the successful completion of some selected TETFund projects. These are increase in materials price, inadequate supply of materials, lack of quality control of material, difficulties in receiving progress payment from client, lack of technical skill of the project manager, lack of experience of the project manager, lack of managerial skills of the project manager, lack of motivating skills of the project manager, lack of commitment of project team members, and economic environment.

Omoregie and Radford (2006) classified the following as factors responsible for project delay, namely, poor contract management, financing and payment of completed work, changes in site conditions, weather, shortages of materials, mistakes and discrepancies in contract document, subcontractors and nominated suppliers, non-adherence to contract conditions, mistakes during construction, inaccurate estimates, delays, shortening of contract periods and design changes.

Dlakwa and Culpin (1990) presented the following factors as responsible for time overrun in public sector construction projects in Nigeria. These are contractors' difficulties in receiving interim payments from public agencies, contractors' financial difficulties, inadequate public agencies' budgets, deficiencies in contractors' organizations, deficiencies in planning and scheduling, frequent variation/change orders, difficulties in obtaining construction materials, deficiencies in public agencies' organizations, contractors' unrealistic tenders, design-related, unrealistic, contract durations imposed by public agencies, large quantities of extra work, unexpected natural and social events, deficiencies attributed to construction plant and equipment, inadequacy of site inspection, shortage of qualified workers, disagreement related to interpretation of contract specification and clauses etc.

Elinwa and Joshuwa (2001) reported the following factors as causes of time overrun in construction projects in Nigeria. These are: non-compliance with conditions of contract, mode of financing and payment for completed work, improper planning, frequent changes in design and materials (variation), underestimation of time for projects, lack of coordination between contractor and design team, preparation and approval of variation orders, poor site management, relationship between management and labor, choice of materials not readily available, mistakes during construction, delays caused by subcontractors and suppliers, inadequate supply of labor, government policy, disputes on site, maintenance work on machinery/plant, inclement (severe) weather conditions, contractor handling work on more than one site, transportation of materials and plant to site, changing construction techniques to unfamiliar ones, lack of proper incentives to operatives, litigation, off-site manufacture of items/building components/ items.

Enshassi *et al.* (2009) identified 110 factors causing delays in construction projects in the Gaza Strip, the factors were categorized into 12 groups namely project related factors, contractors related factors, consultants related factors, clients related factors, professional management related factors, design and documentation related factors, materials related factors, execution related factors, labour and equipment related factors, contractual relationship related factors, government relation related factors, and external factors.

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Shehu *et al.* (2014) developed a list of 84 major causes of time overruns in Malaysian construction projects. Overall mean responses indicates that the ten most critical factors are cash flow problem faced by the contractor, late payment from contractor to subcontractor or suppliers, problems between the contractor and his subcontractors with regards to payments, ineffective planning and scheduling of the project by the contractor, difficulties in financing the project by the contractor, ineffective control of the project progress by the contractor, late payment from client to contractor, bureaucracy in government agencies, slow permits by local authorities, and delay in progress payments by the client.

Based on the previous work presented above, this study identified 32-time overrun factors as shown in Table 1. Although these factors are not exhaustive, they are the most common factors affecting project time performance cited in the literature.

2. Research Methodology

The study was conducted in Bauchi and Gombe states, north-east Nigeria through quantitative research technique. The two states were selected from the region because of the accessibility of the data. Questionnaire survey was used as a means of data collection approach. Questionnaire is one of the widely used data collection technique within the survey strategy that provides efficient way of collecting large responses from large sample (Saunders *et al.*, 2009).

The questionnaire was divided into three sections. Section 1 covers demographic information of the respondents. Section 2 required respondents to indicate their views on the extent/frequency of occurrence of the listed factors during execution of TETFund construction projects in which they were involved using a scale of 1 to 5, where 1 represents very rarely, 2 = rarely, 3= sometimes, 4= often, and 5= always.

Section 3 elicit respondents' opinions on the effects of the listed factors on the time performance of TETFund construction projects in the study area using a scale of 1 to 5, where 1 represents very low effect, 2= low effect, 3= moderate, 4= high effect, and 5= very high effect.

The target population for this study were construction professionals (architects, quantity surveyors, engineers, and builders etc.) who involved in TETFund sponsored construction projects in Bauchi or Gombe state.

One hundred and thirty-six questionnaires (136) were administered to the construction professionals including 37 contractors (those who work in contracting company), 32 clients (those who work in tertiary institutions), and 67 consultants (those who work in consulting firms). Convenience sampling technique was used to access the respondents; this is because a sample frame for this study cannot be established. The clients included construction professionals working in works department/ physical planning units of Universities, Polytechnics and Colleges of Education located in the study area, where TETFund projects are being executed.

The data collected from the survey were analysed by means of descriptive statistics and severity index. Percentages were employed in the analysis of Section 1 of the questionnaire. Whereas, in Section 2, frequency fomular used by Assaf and Al-Hejji (2006) was employed to analysed the data in order to determine the extent of the occurrence of the factors in TETFund construction projects. The formular is:

$$\text{Frequency Index} = (\text{F.I})\ (\%) = \sum a(n/N)*100/5 \qquad (1)$$

Where *a* is the constant expressing weighting given to each response (ranges from 1 for very rarely up to 5 for always), *n* is the frequency of the responses, and *N* is total number of responses.

In Section 3, severity index was employed to analyse the data collected in order to assess the effects of the factors on the performance of TETFund construction project. The following formular was used as in Assaf and Al-Hejji (2006),

Severity Index = (S.I) (%) = $\sum a(n/N)*100/5$ (2)

Where: *a,* is the constant expressing weighting given to each response (ranges from 1 for very low effect to 5 for very high effect), *n* is the frequency of the responses, and *N* is total number of responses.

The impacts of each factor on the performance of TETFund construction projects were evaluated using the following formular as in Assaf and Al-Hejji (2006).

Impact: The impact of each cause is calculated as a function of both frequency and severity indices (Assaf and Al-Hejji, 2006):

Impact = [F.I. (%) * S.I. (%)]/100 (3)

Spearman's rank correlation was used to determine the degree of agreement between the different parties. The correlation coefficient varies between +1 and -1, where +1 implies a perfect positive relationship (agreement), while -1 suggests a perfect negative relationship disagreement (Pallant, 2011). In this research Spearman's rank correlation coefficient *r* is used to assess and compare the relationship between the rankings of two parties for each time overrun factor, while ignoring the ranking of the third party. The value of *r* is calculated by means of Spearman's correlation analysis in the SPSS Software.

3. Results and Discussion

3.1 Respondent's General Information

Out of the 136 questionnaires distributed, 112 were completed and returned which comprises of 31 contractors, 28 clients, and 53 consultants representing 82% response rate. The average years of respondents' experience are 16, 11 and 14 for the contractors, clients and consultants respectively. All the respondents have at least higher national diploma or bachelor's degree as their academic qualification and have been involved in not less than three TETFund construction projects. Thus, based on their experience and academic qualifications, it was assumed that the respondents could provide reliable information.

3.2 Frequency of Time Overrun Factors

The frequency of time overrun factors of TETFund projects based on the views of clients, contractors and consultants have been shown in Table 1. The results reveal that, the five most frequent time overrun factors from the clients' point of view are ineffective planning and scheduling of project by contractor, poor site management and supervision by contractor, delays in sub-contractors' work, shortage of qualified workers and late procurement of materials, these factors are mainly related to contractors. Generally, project planning is essential for the success of any construction project (Toor and Ogunlana, 2009), as inadequate planning may lead to unexpected delays (Clarke, 1999). Whereas, completing a project on schedule indicates the contractor's ability to manage site operation effectively and allocate resources optimally (Chan, D.W.M. and Kumaraswamy, 1997). Hwang *et al.* (2013) claimed that availability of qualified workers ensures smooth progress of work, while shortage of qualified

workers results in construction delay. On the other hand Enshassi *et al.* (2009) asserts that materials are important resources in construction projects, hence, late delivery of materials can lead to delay in completion of work.

Table 1: Ranking Frequency of Occurrence of Time Overrun Factors

Time Overrun Factors	Clients		Contractors		Consultants	
	Index	Rank	Index	Rank	Index	Rank
Ineffective planning and scheduling of project by contractor	67.36	1	41.59	31	51.19	5
Poor site management and supervision by contractor	67.23	2	41.27	32	53.68	1
Delays in sub-contractors work	65.19	3	56.78	4	46.06	13
Shortage of qualified workers	63.92	4	47.09	20	53.21	2
Type of project bidding and award	56.32	7	53.76	9	49.59	7
Late procurement of materials	62.11	5	57.16	3	51.96	3
Inflation	55.07	9	53.43	10	44.42	18
Inclement weather	58.33	6	52.61	12	45.11	15
Slowness in decision making process by client	50.77	16	56.55	5	51.74	4
Delays in site mobilization	52.05	13	46.66	21	40.32	29
Shortage of equipment at site	50.03	17	44.31	26	44.76	17
Rework due to errors during construction	51.55	15	44.21	27	48.47	9
Shortages of materials	55.37	8	47.88	18	46.55	12
Change orders by the client during construction	52.21	12	53.97	8	49.33	8
Poor communication and coordination by client and other parties	42.47	29	45.07	24	48.26	10
Mistakes and discrepancies in contract document	48.43	18	54.45	7	41.80	23
Delays in design work,	43.15	28	52.29	13	40.38	28
Unforeseen ground condition (poor site condition)	46.84	22	50.91	14	45/39	14
Non-adherence to contract conditions	51.98	14	45.11	23	39.61	31
Delays in work approval	52.73	10	56.14	6	42.65	21
Unclear and inadequate details in drawings	52.46	11	58.32	2	41.32	25
Contractors financial difficulties	40.35	32	46.39	22	46.87	11
Incomplete drawings	47.66	20	50.42	15	41.16	26
Bureaucracy in government agencies	44.57	25	53.27	11	45.04	16
Lack of experience on the part of the consultants	41.32	31	49.73	16	39.22	32
Delay in progress payments by client	41.98	30	58.67	1	50.28	6
Unrealistic contract duration	47.19	21	49.17	17	42.36	22
Inadequate contractors experience	46.23	23	43.18	28	40.75	27
Contractors' unrealistic tenders	43.75	27	44.77	25	41.47	24
Inappropriate construction methods	44.54	26	43.16	29	42.83	20
Poor qualification of the contractor's technical staff	48.27	19	41.96	30	44.25	19
Complexity of project design	45.42	24	47.54	19	39.92	30

From the contractors' point of view, the results indicate that, five most frequent time overrun factors are delay in progress payments by client, unclear and inadequate details drawings, late procurement of materials, delays in sub-contractors work, and slowness in decision making process by client. It can be noted that most of these factors are related to clients and consultants. Certainly, delay in progress payments by client will affect the cash inflow of contractors and this leads to delay in completion of the project (Assaf and Al-Hejji, 2006). Similarly, inadequate detail drawing and Slowness in decision making process by client are factors that can delay the progress of work (Enshassi *et al.*, 2009; Hwang *et al.*, 2013; Assaf and Al-Hejji, 2006).

From the consultants' point of views, five most frequent time overrun factors are poor site management and supervision by contractor, shortage of qualified workers, late procurement of materials, slowness in decision making process by client, and ineffective planning and scheduling of project by contractor. Most of the factors are related to contractors.
It can be observed that all the parties opined that late procurement of materials is one of the most frequent time overrun factors in TETFund projects. These findings are in agreement with the previous studies (Gambo *et al.*, 2017; Assaf and Al-Hejji, 2006, Chan and Kumaraswamy, 2002).

3.3 Severity of Time Overrun Factors

The severity of time overrun factors based on the views of clients, contractors and consultants have been shown in Table 2. The results show that, the most severe time overrun factors from the clients' point of views are type of project bidding and award, shortage of qualified workers, ineffective planning and scheduling of project by contractor, delays in sub-contractors work, and slowness in decision making process by client.

From the contractors' point of view, the most severe time overrun factors are delay in progress payments by client, delays in work approval, unclear and inadequate details in drawings, incomplete drawings and type of project bidding and award.
However, from the consultants' point of view, the most severe time overrun causes are delay in progress payments by client, type of project bidding and award, contractors financial difficulties, ineffective planning and scheduling of project by contractor and slowness in decision making process by client. These findings are supported by previous studies (Gambo *et al.*, 2017; Assaf and Al-Hejji, 2006, Chan and Kumaraswamy, 2002).

All the parties agreed that type of project bidding and award is one of the most severe cause overrun factors. However, clients and consultants opined that ineffective planning and scheduling of project by contractors are among the major causes of time overrun.
Generally, awarding the contract to lowest bidder may lead to low performance and consequently delay in project completion. This is because the lowest bidders are likely to be contractors with low capabilities (Assaf and Al-Hejji, 2006).

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Table 2: Ranking Degree of Severity of Time Overrun Factors

Time Overrun Factors	Clients		Contractors		Consultants	
	Index	Rank	Index	Rank	Index	Rank
Delay in progress payments by client	50.13	18	71.21	1	66.33	1
Unclear and inadequate details in drawings	42.93	30	68.94	3	59.13	13
Delays in work approval	43.28	29	70.57	2	55.09	20
Slowness in decision making process by client	59.03	5	67.81	6	65.47	5
Delays in sub-contractors work	59.52	4	65.14	10	61.36	10
Type of project bidding and award	62.24	1	67.98	5	65.78	2
Late procurement of materials	51.06	15	62.22	14	63.65	7
Delays in design work,	54.52	12	67.29	7	52.95	23
Change orders by the client during construction	48.89	20	64.39	11	59.46	12
Incomplete drawings	46.14	24	68.54	4	58.67	14
Mistakes and discrepancies in contract document	50.22	17	61.72	16	55.68	19
Bureaucracy in government agencies	48.22	21	62.15	15	53.94	21
Inclement weather	51.55	14	60.84	17	50.39	27
Inflation	55.65	8	59.43	20	49.79	28
Shortage of qualified workers	60.13	2	66.55	8	62.49	8
Shortages of materials	46.55	23	64.17	12	59.92	11
Lack of experience on the part of the consultants	51.91	13	59.16	21	55.90	18
Unforeseen ground condition (poor site condition)	50.04	19	57.55	23	45.15	32
Shortage of equipment at site	54.93	11	65.84	9	57.88	16
Contractors financial difficulties	55.16	9	59.77	19	65.25	3
Unrealistic contract duration	44.53	27	55.87	25	52.05	24
Poor site management and supervision by contractor	57.91	7	62.91	13	63.82	6
Complexity of project design	40.97	32	53.45	28	51.55	25
Poor communication and coordination by client and other parties	58.36	6	56.33	24	61.88	9
Ineffective planning and scheduling of project by contractor	59.79	3	60.38	18	65.91	4
Inappropriate construction methods	45.77	25	57.60	22	50.92	26
Delays in site mobilization	55.12	10	51.98	30	53.42	22
Rework due to errors during construction	50.43	16	53.24	29	49.42	29
Inadequate contractors experience	44.86	26	54.19	27	57.18	17
Non-adherence to contract conditions	14.15	28	51.37	31	47.69	30
Poor qualification of the contractor's technical staff	41.44	31	54.43	26	58.23	15
Contractors' unrealistic tenders	47.36	22	50.48	32	45.94	31

3.4 Impacts of Time Overrun Factors

Tables 3 show the impacts of time overrun factors on the projects performance according to the views of clients, contractors and consultants. The impact indices were calculated as a product of both frequency and severity indices.

The results indicated that, from the clients' view point the five most important time overrun factors based on their degree of impacts are ineffective planning and scheduling of project by contractor, poor site management and supervision by contractor, delays in sub-contractors work, shortage of qualified workers and type of project bidding and award.
Whereas, from the contractors' view point the most important time overrun factors based on their degree of impacts are delay in progress payments by client, unclear and inadequate details in drawings, delays in work approval, slowness in decision making process by client and delays in sub-contractors work.

Table 3: Ranking Impacts of Time Overrun Factors

Time Overrun Factors	Clients		Contractors		Consultants	
	Index	Rank	Index	Rank	Index	Rank
Poor site management and supervision by contractor	38.93	2	25.96	22	34.26	1
Slowness in decision making process by client	29.97	9	38.35	4	33.87	2
Ineffective planning and scheduling of project by contractor	40.27	1	25.11	25	33.74	3
Delay in progress payments by client	21.04	26	41.78	1	33.35	4
Shortage of qualified workers	38.44	4	31.34	15	33.25	5
Late procurement of materials	31.71	6	35.56	7	33.07	6
Type of project bidding and award	35.05	5	36.55	6	32.62	7
Contractors financial difficulties	22.26	22	27.73	20	30.58	8
Poor communication and coordination by client and other parties	24.79	15	25.39	24	29.86	9
Change orders by the client during construction	25.53	14	34.75	9	29.33	10
Delays in sub-contractors work	38.80	3	36.99	5	28.26	11
Shortages of materials	25.77	13	30.72	16	27.89	12
Shortage of equipment at site	27.48	11	29.17	19	25.91	13
Poor qualification of the contractor's technical staff	20.00	31	22.84	31	25.77	14
Unclear and inadequate details in drawings	22.52	21	40.21	2	24.43	15
Bureaucracy in government agencies	21.49	24	33.11	12	24.29	16
Incomplete drawings	21.99	23	34,36	10	24.15	17
Rework due to errors during construction	26.00	12	23.54	28	23.95	18
Delays in work approval	22.82	20	39.62	3	23.50	19
Inadequate contractors experience	20.74	28	23.40	29	23.30	20
Mistakes and discrepancies in contract document	24.32	16	33.61	11	23.27	21
Inclement weather	30.07	8	32.01	13	22.73	22
Inflation	30.65	7	31.75	14	22.12	23
Unrealistic contract duration	21.01	27	27.47	21	22.05	24
Lack of experience on the part of the consultants	21.45	25	29.42	17	21.92	25
Inappropriate construction methods	20.39	30	24.86	26	21.81	26
Delays in site mobilization	28.69	10	24.25	27	21.54	27
Delays in design work	23.53	17	35.19	8	21.38	28
Complexity of project design	18.61	32	25.41	23	20.58	29
Unforeseen ground condition (poor site condition)	23.44	18	29.30	18	20.49	30
Contractors' unrealistic tenders	20.72	29	22.60	32	19.05	31
Non-adherence to contract conditions	22.95	19	23.17	30	18.89	32

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From the consultants' view point the most important time overrun factors based on their degree of impacts are poor site management and supervision by contractor, slowness in decision making process by client, ineffective planning and scheduling of project by contractor, delay in progress payments by client, and shortage of qualified workers.
The results are similar to that obtained by previous studies (Gambo *et al.*, 2017; Assaf and Al-Hejji, 2006, Chan and Kumaraswamy, 2002)).

Based on the views of the parties, there is no time overrun factor among the five top that is common. However, there are some factors that are common between two parties, for instance, ineffective planning and scheduling of project by contractor, poor site management and supervision by contractor, shortage of qualified workers (between clients and consultants), delays in sub-contractors work (between clients and contractors), and delay in progress payments by client, slowness in decision making process by client (between contractors and consultants). Slowness in decision making process by client (between contractors and consultants).

3.5 Impact Ranking Correlation

Spearman's rank correlation coefficient is used to assess the extent of agreement or disagreement with respect to the impacts ranking of two parties while ignoring the third party, Table 4 shows the results. The results reveal that, there is large correlation between clients and consultants (r=0.62), suggesting relatively good agreement in ranking time overrun factors between the two parties. Whereas there is small correlation between clients and contractors (r= 0.26), suggesting low agreement in ranking time overrun factors between the two parties. Similarly, there is small correlation between consultants and contractors (r = 0.28), also suggesting low agreement in ranking time overrun factors between the two parties (Pallant, 2011).

These results indicate that contractors' views on ranking time overrun factors differed with that of clients and consultants. Thus, attention should be given to the different views.

Table 4: Spearman Rank Correlation Coefficient

Parties	Spearman rank correlation coefficient	Significance level
Clients and contractors	0.262	0.142
Clients and consultants	0.618	0.001
Contractors and consultants	0.278	0.127

4. Conclusions

This study was conducted to identify factors affecting time performance of TETFund construction projects in tertiary institutions of learning in north-east, Nigeria. Data were collected by means of questionnaire survey of construction professionals comprising clients, contractors and consultants. The views of clients and consultants showed that, the most frequent time overrun factors are related to contractors. Whereas contractors pointed out that they are related to clients and consultants. There is agreement among the three parties that type of project bidding and award is one of the most severe time overrun factors.
The study reveals that there is relatively good agreement between clients and consultants in ranking of the impacts of time overrun factors. However, there is very low degree of agreement between clients and contractors, as well as between consultants and contractors.
In order to improve time performance of TETFund projects, it is recommended that progress payments should be done by clients as soon as when due. On the other hand, contractors should ensure adequate planning and scheduling for all activities throughout the project. All

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drawings and specifications should be complete, adequate in details and clear before the commencement of work. The findings of this study can assist TETFund project team members to understand significant factors that can affect completion time of the projects; thus, appropriate measures can be put in place.

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