



THE FACTORS OF TRANSFORMATIONAL LEADERSHIP STYLE FOR CONSTRUCTION PROJECTS: A CASE OF NIGERIAN CONSTRUCTION INDUSTRY

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Abstract: The construction process owes as much importance as the success of the product. Therefore, the role of a project manager (PM) who coordinates both process and product is inevitable. This aim of this study is to assess factors of transformational leadership style by the PM in the Nigerian construction industry. A survey research design approach with structured questionnaire as an instrument of gathering data was adopted. Out of 1233 copies of questionnaire distributed, data from 975 respondents with valid responses were analysed using both descriptive and inferential statistics. Findings revealed these three frequently used factors to be “Insists on only the best performance”; “Has a clear understanding of where the project team is going”; “Shows the team that he/she expects a lot from them”. These are intellectual stimulation and charismatic (idealised) influence components of transformational leadership only. The rejection of null hypothesis based on hypothesis validity testing indicated a divergent opinion or perception by all and that the entire construction team share different views on the frequency of usage of factors of transformational leadership styles. The study concludes that combining these frequently used factors with beneficial ones of other styles will engender, sustain and boost project delivery in Nigeria. Hopefully, the findings of this research will help to address the adoption of most suitable leadership style in Nigerian construction industry. The appropriateness or otherwise of adoption (either in part or a whole) of factors of transformational leadership is established by this study.

Key words: Transformational, leadership, style, construction project, performance, Nigeria.

Paper type Research paper

INTRODUCTION

The realisation of construction product is a process of integration of various group of people or individuals working on different project elements. These group of people or individuals are well knitted in pursuance of common organisational goals or objectives. Leadership function or role arises as a requirement of coordinating group of people or individuals with the activities of construction process and tasks. This coordinating function rest on the shoulder of a project manager, whose responsibility, according to Benator (2003), is to manage the financial, technical and schedule requirements of the project. The project manager ensures the product is delivered in time, according to budget and in conformity with a technical quality as stated in the contractual performance specifications. Achieving project goal requires human productivity, therefore, the project manager’s main responsibility is to maintain cohesion in the project team that will enhance delivery. A process

employed by individuals to enable themselves act, model the way to the fullest and give the best of their ability, while also ensuring the subordinates are not left out by recognising their contribution is known as leadership (Kouzes and Posner; 2002). However, to Havenga (2002), the person that empowers others to make decisions is a leader. Therefore, leadership is a social process that allows the followers to work in synergy toward actualising the set goal or objective of an organisation (Swensen *et al.*, 2016). There are various leadership definitions gotten from many different angles but with some common elements. Prominent among these elements is the influential ability of the leader over the subordinate known as leadership style and the realisation of organisational goal. In summary, the ability to exact influence on the attitude of employees in a manner that ensure accomplishment of organisational goal is termed leadership. Leadership cannot be discussed without leadership style in mention as the two are inseparable. Leadership style is essential in affecting the behaviour of the subordinates because it could produce desired result or contrariwise. Therefore, one can conclude by saying that leadership is a process by which one person influence the thoughts, attitude and behaviours of others. Leaders set the direction for the subordinate; they help others to see what lies ahead; they help to visualise what might be achieved by others; they encourage and inspire subordinates. Leadership is required among group of people otherwise they degenerate into argument and conflict. This is largely due to the attribute of seeing things from different perspectives and lean towards different solutions. Leadership helps to harmonize different perspectives, thoughts, patterns by aligning them towards the same direction and harness joint effort to produce best result.

Construction industry in Nigeria had operated under various forms of leadership/leadership style with no clear-cut definition and attributes. They include, among others, shareholder, autocratic, bureaucratic, charismatic, democratic /participative, transactional, transformational and laissez-faire leadership styles. As shown in literature, many authors have worked and concluded on one form of leadership/leadership style or the other. Oke (2010) concluded that autocratic leadership style is commonly exhibited by Nigerian construction leaders while Oke (2013) submitted that they are more transactional than transformational, although recommended the development of transformational traits among the industry leaders. Ayangade *et al.* (2017) considered the effect of democratic leadership style while working on the morale of workers in Lagos state. The study by Oyetunji *et al.* (2019) concluded that transformational leadership style is mostly used by project managers. No one in particular can be said to be prevalent among these. This divergent opinions in literature informs the current research effort at unravelling the applicable and prevailing style in the Nigerian industry. Based on the recommendation of Oke (2013) and recent submission of Oyetunji *et al.* (2019), are all components/factors of transformational leadership beneficial to construction projects? There is therefore, need to identify which factor(s) of this leadership style will be most beneficial to project delivery and workers' performance just as was done by Olasunkanmi *et al.* (2023) on transactional leadership style. Transformational leadership has been with us since ages and is widely researched on in all facet of human endeavours. From military to manufacturing; educational to business; agricultural to construction, the list is endless. Suffice to say that all components of transformational leadership will be beneficial to construction industry is to shy away from the obvious. This study intends to provide answer to this. Also, if transformational leadership is found appropriate to a few selected construction sites in a particular location, can the same be said when extended to other locations with large respondents? These are the gaps this study intends to fill. Consequent upon this, expanding the scope of respondents across various locations will enable this study to draw conclusion on the appropriateness of adoption of transformational leadership by project managers, either in part or whole.

Against this background, this study examines the transformational leadership style of project managers with a view towards extracting the most beneficial factors for construction projects in Nigeria. The specific objective is to identify the factors of transformational leadership style for construction projects. The null hypothesis postulated for the study states that there is no significant variation in the responses to factors of transformational leadership styles among the respondents (construction team) in the study area.

The uniqueness of this study both in findings and value stem from the fact that among few studies available in literature on transformational leadership style in Nigerian construction industry, the study identifies the component of transformational leadership style that are most beneficial to construction projects. This is not only a plus to Nigerian construction industry but the world at large. The adoption and integration of these factors with others shall greatly improve project performance. All forms of uncertainty about which leadership style is appropriate for construction projects shall be laid to rest by the findings of this study. Also, projects managers' success is enhanced by the outcome of this study as they adopt style not at odds with ethos of their organisation. Additionally, it will enrich literature and contribute to knowledge of leadership study in Nigeria.

LITERATURE REVIEW

Background

The evolution of leadership style continued until Bass (1985) came up with four dimensions of transformational leadership style: idealized influence (charisma), inspirational motivation, intellectual stimulation and individualized consideration. Transformational leadership is concerned with meeting the higher order essential need of the subordinate, thereby resulting in followers aligning themselves with the needs of the leader (Bygballe and Ingemansson, 2014). Uddin, Das and Fan (2017) submitted that it is only a strong advocate of the unconventional things that may foster innovation and enhance performance while Bass and Riggio (2006) said that transformational leadership improves the creative effort in an organization and contribute to innovative goal. Subordinates are stimulated to focus and understand organizational vision therefore motivating them to strive towards achieving collective goals (Jiang *et al.*, 2017).

Pieterse *et al.* (2010) described transformational leadership as an approach to leading that influence subordinates to look beyond self interest in favor of the group's objectives by modifying their morale, ideals and values. It is also, according to Bass and Riggio (2006), associated with stimulating and inspiring employees to deliver extraordinary results while at the same time developing their own leadership abilities. It is a higher order construct that comprises several components, according to Pieterse *et al.* (2010). As part of the evolution, Bass (1985) suggested four dimensions of transformational leadership, Podsakoff *et al.* (1990) identified six dimensions of transformational leadership to be articulating vision, providing an appropriate model, fostering the acceptance of group goals, high performance expectations, individualized support and intellectual stimulations. According to Podsakoff *et al.* (1990), articulating vision implies the leader identifying new opportunities for the unit, develops, articulates and inspires others with his or her vision and show them how to achieve the vision. Providing an appropriate model entails the leader living the espoused values which become examples to the subordinates to emulate, it emphasizes "do as I do, not do as I say". Also, the leader fosters the acceptance of group goals by promoting team effort towards the achievement of set goals. Additionally, high performance expectation behaviour of the leader is reflected in the leader's expressed belief in the ability of the followers to deliver excellence and high-quality performance. Individualized support by the leaders is expressed in the show of respect and concern for the individual's needs. Finally, through intellectual stimulation, the leader challenges the assumptions employees hold about their work and encourages them to look at different ways of doing it better (Podsakoff *et al.*, 1990, 1996).

In transformational leadership style, a project leader is expected to possess both visionary and inspirational abilities as they ensure employees engagement to the team activities. Bass (1990) argued further that a leader with high inspirational motivation will reduce follower's exhaustion and withdrawal tendencies because the vision would have been put forward in a clear and compelling manner that gives the subordinate reasons to strive and achieve the project's goal.

Empirical review of previous studies

Earlier study had confirmed the influence of transformational leadership on performance of projects to be positive (Kissi *et al.*, 2012), though it was conducted among 350 portfolio project managers in the United Kingdom. The result agreed with the outcome of study done previously by Keller (1992) that revealed existence of positive relationship between transformational style and performance of projects using indices of time, cost, quality and client's satisfaction. Although, the respondents were project managers working in the same organisation thereby limiting the generalisation of the findings.

A study conducted by Tabassi and Babar (2010) in Iranian construction industry among 220 respondents in contracting firms to establish relationship between leadership style and project implementation discovered transformational leadership style as the most preferred. Though the study was done in large construction companies but the findings was in disagreement with earlier suggestion by Becker and Huselid (1998) that project leaders tend to display high relationship behavioural characteristics when dealing with less intricate task. Also, only project contractors were considered for the study excluding the views of other project personnel.

Another study conducted by Thwala *et al.* (2015) among 110 respondents in construction industry in South African region to examine the influence of leadership style on performance of projects submitted that the

relationship between transformational leadership style and performance of projects was higher than other leadership styles, though transactional and democratic styles had significant relationship to project performance. The study asserted that Laissez-faire and autocratic styles have no significant influence on performance of construction projects. However, only project managers in construction were targeted by the study without including other project team members whose opinion would have contributed immensely to the outcome of the study, hence, single source bias may set in.

Oke (2013) examined the leadership styles prevalent among the professionals in Nigeria construction industry by using various criteria. The construction professionals considered were architects, builders, civil engineers, and quantity surveyors. The finding of the study revealed that architects and engineers exhibit shareholder leadership style while quantity surveyors and builders exhibit autocratic leadership style. Other leadership styles identified by the study are bureaucratic, charismatic, democratic/participative, laissez-faire leadership styles. None of the construction professional was found exhibiting democratic or cooperative style. The study revealed that construction professionals in Nigeria exhibit more of autocratic leadership style in their project management. Also, their leadership role functions were task oriented, transactional and charismatic in nature. Additionally, professionals in Nigerian construction industry were discovered to be more transactional than transformational in their leadership approach. The study emphasized the need for adoption of most appropriate leadership style for different kinds of projects. It therefore recommends the importance of building up transformational traits as the style allows for more inclusiveness of followers in construction process and participation. A path to follow by the current study was set based on the recommendation of Oke (2013).

Transformational leadership characteristics and behaviour

A transformational leader possesses the characteristics summarised in Table I.

Table 1: Transformational Leadership Style and Behaviur

S/N	Transformational style	Leader Behaviour
1.	Idealised Behaviours (Living One's Ideals)	The leader talks about their most important values, beliefs and specify on the importance of having a strong sense of purpose. Idealised leaders must always consider the moral and ethical consequences of decisions. These leaders emphasise on the importance of trusting each other.
2.	Inspirational Motivation (Inspiring others)	Inspirational leaders talk optimistically about the future as well as what needs to be accomplished. These leaders articulate a compelling vision of the future, expressing confidence that goals will be achieved and take a stand on controversial issues.
3.	Intellectual Stimulation (Stimulating others)	Leaders re-examine critical assumptions to question whether they are appropriate, seek different perspectives when solving problems and getting others to look at problem from many different angles. These leaders suggest new ways of looking at how to complete assignments and encourage non-traditional thinking to deal with traditional problem.
4.	Idealised Attributes (Respect, Trust and Faith)	They instil pride in others for being associated with them and go beyond their self-interest for the good of the group. The leaders act in ways that build others respect and display a sense of power and competencies
5.	Individual Consideration (Coaching and Development)	These leaders spend times teaching and coaching, treat others as individuals rather than just as member of the group; they consider the fact that individuals have different needs, abilities and aspiration from others. They help others to develop their strengths and listen attentively to other concerns as well as promoting self-development.

Transformational leadership measurement indices

Podsakoff *et al.* (1990) developed leadership measurement indices of twenty-two items shown in Table 2. based on the identified six dimensions of transformational leadership. Subsequently, these items have been modified and used by various researchers (Oyaya, 2017; Tabassi *et al.*, 2015; Kissi *et al.*, 2013 and others). This was adopted by this study.

Table 2.: Transformational Leadership Measurement Indices

1	The manager displays power and confidence while administrating project activities.
2	The manager arouses awareness about important tasks and schedules in the project.
3	The project manager encourages the team to look at problems from different dimensions.
4	The manager appreciates our different abilities and therefore provides individualized attention to staff.
5	Always seeking new opportunities for the organisation.
6	Paints an interesting picture of the future for team member.
7	Has a clear understanding of where the project is going.
8	Inspires others with his/her plans for the future.
9	Is able to get others committed to his/her dreams of the future.
10	Leads by “doing” rather than simply by “telling”.
11	Provides a good model to follow
12	Fosters collaboration among team members.
13	Encourages employees to be “team players”
14	Gets the team to work together for the same goal.
15	Develops a team attitude and spirit among all employees.
16	Shows the team that he/she expects a lot from them.
17	Insists on only the best performance.
18	Shows respect for employee’s personal feelings.
19	Behaves in a manner that is thoughtful of employee’s personal needs.
20	Treats subordinate without considering his/her personal feelings.
21	Has provided employee with new ways of looking at things which used to be a
22	Has ideas that have forced employees to think otherwise about their own initial
23	Has stimulated subordinates to think about old problems in new ways.

RESEARCH METHODOLOGY

Research design

A quantitative method and survey approach were employed in this study. The choice of a research design is based on the nature of questions to be answered by the study (Otokiti, 2015; Dainty, 2008). Quantitative research design adopted for this study is justified by the nature of the research question and objective. According to Malhotra and Birks (2006), quantitative research is used to conclusively answer specific hypotheses or research questions using descriptive or experimental techniques. Therefore, quantitative technique was used to extract the necessary data on the frequency of usage of transformational leadership style by project managers from the respondents.

Population and sample

Creswell (2009) defined research population as a collection of well-defined individuals or objects with similar traits or characteristics. The population of the study consist of employees of construction firms (both indigenous and foreign) operating in the study area (FCT (Abuja), Lagos and Rivers). Therefore, the study area was considered due to the quantity of construction works and presence of local, multinational construction firms that confirms their status as hub of economic investments and macro-capital cities in Nigeria. Ikediashi and Ogwueleka (2014) in a similar study considered these locations as strategic cities in Nigeria. Sample is a portion of the population that represents the whole population while sampling is the process of selecting this portion. Teddlie and Yu (2007) said reducing the number of members of a population to a manageable group is also termed as sampling. The main purpose of sample is to help drawing inferences on the entire population (Corbeta 2003). The targeted respondents were project managers (PMs), construction professionals (referred to as project

team members (PTM) who are architects, builders, quantity surveyors and engineers) and firm's project supervisors (SUP). The population frame was sourced from Federal Inland Revenue Service (FIRS). FIRS was considered over Federation of Construction Industry (FOCI) because it has higher registered construction firms. Other reason for the choice of FIRS is the high response rate desired. FOCI was used by Omopariola *et al.* (2019) in South Africa, though targeted at the same respondents but yielded lesser response rate. All such construction firms that have registered with FIRS with evidence of tax payment through tax identification number (TIN) over the last five years were deemed to still be in operation and not yet gone into extinct.

Sample size was determined using the Taro Yamane (1967) equation as shown in equation (I)

$$n = \frac{N}{1 + N(e)^2} \quad (I)$$

Where n = the sample size; N = the population under consideration; e = the margin error, usually (0.05). Yamane (1967) equation is adopted for the determination of sample size due to its simplicity, reliability and validity. It has enjoyed wide acceptance and usage among researchers over a long period of time. Sample frame and size are as displayed in Table 3.

The sample size is 411 firms as derived from the sample frame of 637 firms using Taro Yamane's equation. Therefore, the study has a total of 1233 respondents from 411 firms with 3 respondents per firm. The order of allocation in the study area as shown in Table III is: Lagos- 148 firms; Rivers- 105 firms and FCT (Abuja)- 158 firms.

Table 3: Sample frame and size

State	Number of firms	Sample
Lagos	235	148
Rivers	142	105
FCT (Abuja)	260	158
Total	637	411

Sampling techniques

Both stratified random and purposive sampling techniques were used for the study. The stratified random technique was used due to the heterogeneous nature of the population; hence, it is necessary to stratify before taking the sample. This technique was employed to divide respondents based on location (cities or states) to allow for proportional representation of each location. Purposive sampling enabled the selection of respondents within the construction firms based on the recommendation of project manager(s). All major projects carried out by these firms regardless of the client nature and type were considered for evaluation. They include buildings, roads, hospitals, rail lines, hostels and any such construction projects worthy of assessment.

Data collection and analysis

This section focuses on methods of data collection, scale of measurement and method of data analysis.

Survey instrument and administration

Survey questionnaire was used as an instrument of data collection. The use of questionnaire was considered appropriate for the study due to its multiple advantages of being easy to analyse and reduction of biases among others. Out of 1233 structured, cross-sectional questionnaires administered, a total of 975 were received with valid response. Questionnaire administration was done directly to respondents through the PMs of chosen firms. Research assistants helped in doing others by also contacting PMs directly. The questionnaires were divided into two sections. Section one captured the respondent's characteristics such as sex, educational qualification, stake in the projects, professional affiliations, membership status of professional body (if any), years of experience, state where project is domiciled, type of construction and others. While the second parts sought the opinion of the respondent on the frequency of usage of factors of transformational leadership style by the project managers. Many scales of measurement were used for the study. Both nominal and interval scales were used for the respondents' characteristics in the first section while ordinal scale of measurement was used for the second section. The ordinal scale was on a five point-Likert scales of 5-strongly agree; 4-agree; 3-moderate (slightly agree); 2-disagree; 1-strongly disagree. Likert scale was employed to measure respondents' perception of the concept under investigation. Note, it was considered appropriate to exclude neutral response category from the

five-point scale used, because the respondents possess requisite knowledge and experience about the subject matter under scrutiny (Shiu *et al.* 2009). The respondents were asked to rate the frequency of usage of transformational leadership style by the project manager.

Data analysis

Both descriptive and inferential statistics were employed for data analysis. Descriptive for respondents' characteristics while relative agreement index (RAI) for ranking of perceptions and opinions of respondents. Following the approach used by Aibinu and Jagboro (2002); Cheung *et al.* (2004); Ugwu and Haupt (2007) for similar studies, computation and ranking of weighted average of each factor for all groups was carried out, this represents perception of the group. RAI for the study was calculated from the mean scores gotten from each group of respondents using equation (II)

$$RAI = \frac{\sum w}{AN} \quad (II)$$

Where w = weighted average given to each factor by the respondents; it ranges from 1 to 5

A = the highest weight (which is 5 for this study)

N = the total number of respondents (975 for this study)

RAI = relative agreement index.

The hypothesis postulated for the study was tested by Kruskal Wallis (H) test to determine the significant variations and differences in the perception of usage of factors of transformational leadership styles, while Bonferroni with Dunn's corrected test was assigned to ascertain the source of variation (if any) in the perceptions (post-Hoc test).

Reliability test

Cronbach Alpha coefficient which is a measure of the inner consistency was adopted to ascertain the inner consistency of the data collected for the study. The reliability test was conducted among representatives of the population in (2) two states that forms part of the study area. In line with definition of Kalyviotis (2013) and already used by Ayopo (2011), reliability test was done twice at intervals of fourteen days, the period reasonable enough to guarantee the stability of results to be determined. A four cut-off points for reliability was given by Hinton *et al.* (2004); excellent reliability (0.90 and above), high reliability (0.70-0.90), moderate reliability (0.50-0.70) and low reliability (0.50 and below). The test instrument with Cronbach's Alpha values between 0.85-0.95 has a high reliability and is consistent internally.

FINDINGS

Construction firms were identified as the custodian of construction project team through a pilot study. Hence, the structured questionnaire as instrument of data collection was administered on construction team members within the firms operating in the chosen locations. Table 4 shows the firm location cover by the study, the total number of questionnaires distributed, the quantity returned, used for the study, number discarded as well as the corresponding percentage returned from each location.

The questionnaire achieved a distribution return rate of 79.8% (N=1233), essentially due to the incentives given to the research assistants and professional colleagues in these locations. As shown in Table 4., of the total distributed, Lagos has a share of 36%, Rivers and FCT (Abuja) has 25.5% and 38.4% respectively. Few of the returned questionnaires were discarded due to some anomalies noticed. They were either not completely filled or cases of multiple answers to same question and many others. Out of the total number returned ((N=984), only 9 that represent < 1% were discarded. Therefore, a total of 975 questionnaires representing 79.1% of the total distributed and 99.5% of the quantity returned were used for the study.

Table 4: Descriptive result of the return rate of questionnaire administered

Firm	Administered		Returned		Used		%	Discarded	
Location	No	%	No	%	No	%	Per location	No	%
Lagos	444	36.1	355	36.1	353	36.2	79.5	2	22.2
Rivers	315	25.5	275	27.9	271	27.8	86	4	44.4
FCT(Abuja)	474	38.4	354	36.0	351	36.0	74.1	3	33.3
Total	1233	100	984	100	975	100		9	100

Sample characteristics

The characteristics of the respondents whose perception were investigated such as sex, educational qualification, stake in the projects, professional affiliation, membership status and experience are presented in Table 5.

Table 5: Descriptive results of respondents' characteristics

Features	Sub features	%	N
Sex	Male	87.5	836
	Female	12.5	139
	TOTAL	100.0	975
Educational qualification	OND	7.4	62
	HND	32.2	381
	BSc/BTech	24.2	226
	PGD	6.6	66
	MSc/MTech	21.9	186
Stake in the project	Others	7.7	54
	TOTAL	100.0	975
	Project Manager	33.0	325
	Project Team Member (PTM)	33.6	326
	Supervisor (SUP)	33.3	324
Professional affiliation	TOTAL	100.0	975
	NIA	15.4	148
	NIOB	21.1	175
	NSE	36.5	343
	NIQS	15.7	160
	None	11.4	149
	TOTAL	100.0	975
Membership status	Technician	0.7	7
	Licentiate	0.7	7
	Associate	3.4	33
	Graduate	26.5	259
	Corporate	51.9	506
	Fellow	1.44	14
Years of experience	None	15.3	149
	TOTAL	100.0	975
	1-5years	1.1	8
	6-10years	10.3	93
	11-15years	17.1	224
Nationality	16-20years	37.0	346
	Above 20years	34.5	304
	Total	100.0	975
	Nigerian	89.7	879
	Non-Nigerian	10.3	96
Farm size	Total	100	975
	Small firm (0-49)	131	37.3
	Medium firm (50-100)	92	26.2
	Large firm (100 and above)	128	36.5
Project size	Total	351	100.0
	Below 10 Million	-	-
	10-20 Million	-	-
	21-50 Million	4	1.1
	51-100 Million	32	9.1
Construction type	100-900 Million	122	34.8
	Above 1Billion	193	55.0
	Total	351	100.0
	Building	45.43	443
	Road	26.05	254
Construction type	Hospitals	6.05	59
	Sport complex	1.85	18
	Others	20.62	201
	TOTAL	100.0	975

Usage of factors of Transformational Leadership Styles (TFLS)

The main objective of the study was achieved by requesting the respondents (project managers, project team members and supervisors) to indicate their level of agreement to the usage of factor of transformational leadership style. A set of selected factors of transformational leadership style (as identified and extracted from the literature) were presented to the respondents. In order to reveal the level of agreement to the usage of these factors, the twenty-three (23) factors as contained in the questionnaire were ranked by the construction project team (project managers, project team members (comprising project architects, builders, engineers and quantity surveyors) and supervisors, using a Likert scale. The overall perception of the entire construction team is presented in Table 6. This is achieved by doing comparative analysis of the RAIs and rankings by each group of respondents. For ease of analysis, RAIs from different group is placed side by side and the five most frequently used factors/elements are extracted and shown in Table 7. The entire construction team agreed on high frequencies of usage of three factors namely, “Insists on only the best performance (RAI =0.9758)”, “Has a clear understanding of where the project team is going (RAI=0.9034)” and “Shows the team that he/she expects a lot from them (RAI=0.8753)” incidentally ranked first, second and third respectively by each group of respondents. The unanimity of level of agreements (as shown in Table 7) portends the emphasis of transformational leadership style on man management than task management to achieve project objective.

In the same vein, there is a congruence of opinion on the three least ranked factors; “Behaves in a manner that is thoughtful of employee’s personal needs (RAI=0.5657)”, “Treats subordinate without considering his/her personal feelings (RAI=0.5651)” and “Is able to get others committed to his/her dreams of the future (RAI=0.5407)”. These were ranked twenty-first, twenty-second, twenty-third and therefore implicate or reveal the weakness of PMs. Addressing the personal feelings of employees give them more sense of belonging thereby getting the best of their input.

Conclusively, as seen in Table 6, transformational leadership style is mostly adopted and used by PMs in the construction industry. This is because the least ranked factor has $RAI > 0.5$ and it enjoys average frequency of usage.

Table 6: Perception of the entire construction project team on the frequencies of usage of factors of TFLS by project managers

Factors of TFLS	Overall			PM			PTM			SUP		
	N	RAI	Rank	N	RAI	Rank	N	RAI	Rank	N	RAI	Rank
Insists on only the best performance.	975	0.9758	1 st	325	0.9822	1 st	326	0.9620	1 st	324	0.9833	1 st
Has a clear understanding of where the project team is going.	975	0.9034	2 nd	325	0.9409	2 nd	326	0.8969	2 nd	324	0.8722	2 nd
Shows the team that he/she expects a lot from them.	975	0.8753	3 rd	325	0.9120	3 rd	326	0.8613	3 rd	324	0.8525	3 rd
Always seeking new opportunities for the organisation.	975	0.8457	4 th	325	0.8837	6 th	326	0.8288	4 th	324	0.8247	4 th
The manager displays power and confidence while administrating project activities.	975	0.8137	5 th	325	0.9114	4 th	326	0.7890	6 th	324	0.7407	5 th
Has stimulated subordinates to think about old problems in new ways.	975	0.8008	6 th	325	0.8652	8 th	326	0.8006	5 th	324	0.7364	7 th
Provides a good model to follow	975	0.8000	7 th	325	0.8818	7 th	326	0.7804	8 th	324	0.7377	6 th
The manager arouses awareness about important tasks and schedules in the project.	975	0.7973	8 th	325	0.8886	5 th	326	0.7816	7 th	324	0.7216	8 th
Leads by “doing” rather than simply by “telling”.	975	0.7579	9 th	325	0.8338	9 th	326	0.7380	10 th	324	0.7019	9 th
The project manager encourages the team to look at problems from different dimensions.	975	0.7532	10 th	325	0.8178	10 th	326	0.7436	9 th	324	0.6981	10 th
Fosters collaboration among team members.	975	0.7038	11 th	325	0.6939	11 th	326	0.6939	11 th	324	0.6531	12 th
Has ideas that have forced employees to think otherwise about their own initial challenge	975	0.6948	12 th	325	0.7397	14 th	326	0.6902	12 th	324	0.6543	11 th
Encourages employees to be “team players”	975	0.6862	13 th	325	0.7551	12 th	326	0.6681	13 th	324	0.6352	13 th
The manager appreciates our different abilities and therefore provides individualised attention to staff.	975	0.6673	14 th	325	0.7292	15 th	326	0.6472	14 th	324	0.6253	14 th
Gets the team to work together for the same goal.	975	0.6583	15 th	325	0.7415	13 th	326	0.6460	15 th	324	0.5870	18 th
Paints an interesting picture of the future for team member.	975	0.6490	16 th	325	0.7009	17 th	326	0.6380	16 th	324	0.6080	17 th
Has provided employee with new ways of looking at things which used to be a challenge	975	0.6429	17 th	325	0.6794	18 th	326	0.6374	17 th	324	0.6117	16 th
Develops a team attitude and spirit among all employees.	975	0.6334	18 th	325	0.7218	16 th	326	0.6221	18 th	324	0.5562	20 th
Shows respect for employee’s personal feelings.	975	0.6137	19 th	325	0.6585	20 th	326	0.6055	19 th	324	0.5772	19 th
Inspires others with his/her plans for the future.	975	0.6037	20 th	325	0.6671	19 th	326	0.5945	20 th	324	0.5494	21 st
Behaves in a manner that is thoughtful of employee’s personal needs.	975	0.5657	21 st	325	0.6191	21 st	326	0.5595	22 nd	324	0.5185	22 nd
Treats subordinate without considering his/her personal feelings.	975	0.5651	22 nd	325	0.5120	23 rd	326	0.5687	21 st	324	0.6148	15 th
Is able to get others committed to his/her dreams of the future.	975	0.5407	23 rd	325	0.6154	22 nd	326	0.5595	22 nd	324	0.4784	23 rd

Table 7: Top Five factors of TFLS based on perception of each group of respondents

Rank	Project Manager	Project Team Member	Supervisor
1 st	Insists on only the best performance.	Insists on only the best performance.	Insists on only the best performance.
2 nd	Has a clear understanding of where the project team is going.	Has a clear understanding of where the project team is going.	Has a clear understanding of where the project team is going.
3 rd	Shows the team that he/she expects a lot from them.	Shows the team that he/she expects a lot from them.	Shows the team that he/she expects a lot from them.
4 th	The manager displays power and confidence while administrating project activities.	Always seeking new opportunities for the organisation.	Always seeking new opportunities for the organisation.
5 th	The manager arouses awareness about important tasks and schedules in the project.	Has stimulated subordinates to think about old problems in new ways.	The manager displays power and confidence while administrating project activities.

Test of hypothesis on the level of agreement on the frequencies of usage of factors of TFLS

The level of agreement of entire construction team (all the respondents) on the frequencies of usage of factors of transformational leadership style by the PM was investigated to establish any form of similarities in the perception. Kruskal-Wallis (H) test was therefore used to test the hypothesis which states that here is no significant variation in the responses to factors of transformational leadership styles among the respondents (construction team) in the study area.

The confidence level is set at 95% and the decision rule is that if the P-value is ≤ 0.5 , null hypothesis is rejected in favour of alternative but if > 0.5 , null hypothesis is accepted i.e. p-value less than or equal to α at 5% significance level, then null is rejected and vice-versa.

The result of the test shows all the variables to have p-values less than 0.05 and are therefore significant with null hypothesis rejected and alternative accepted. This by implication means, for all these variables, the construction team believe there exist reasonable difference on the level of agreement in the frequencies of display of elements of TFLS. Although, the result of the hypothesis testing for all the elements considered on individual basis shows all to be significant with p-values of less than 0.05 for all. Accepting the null hypothesis would have been the norm but further attempt was made to conduct another test by comparing the mean score of all elements as ranked by the respondents (construction team). In Table 8., there is a consensus of agreement by the respondents on all elements by rejecting the null hypothesis with p-value of 0.015. Therefore, significant variation exists in the response of construction team on the level of agreement in the frequencies of usage of factors of TFLS.

Table 8: Variation in the response on the level of agreement in the frequencies of usage of factors of TFLS

Level of agreement in the frequencies of display of elements of TFLS	N	Mean Rank	Decision @ 0.05 Sig. Level
Project manager	23	44.30	
Project team member	23	33.35	
Supervisor	23	27.35	
Chi-Square		8.449	
D.F		2	
P-value		0.015	Reject

Post Hoc Test on level of agreement on the frequencies of usage of factors of TFLS

Table 9 shows the outcome of post hoc test conducted on the level of agreement by the construction team on the frequencies of usage of factors of transformational leadership style. Bonferroni-Dunn test was used to ascertain the source of variation or difference in perception as the earlier test revealed existence of significant difference in response. This test is referred to as Bonferroni adjustment, it is a flexible method for post hoc comparisons by ensuring that a family-wise type H error rate are below the significant level ($\alpha=0.05$) at the end of all comparisons. One group is treated as control by Dunnett test while others are compared against it. The corresponding level of significance for the estimated statistics z is calculated as adjusted by Bonferroni test in p, then adjust to account for type1 error inflation, this is the primary purpose of Dunn test. Pohlert (2014) asserted that, for this specific reason, the test is often referred to as the Bonferroni-Dunn test. It should be emphasised here that Bonferroni adjustment of p-values was originally used by Dunn (Dunn,1964).

Table 9: Post Hoc Test on Multiple comparison for source of variation using Bonferroni test

	(I) Construction Team	(J) Construction Team	Mean Difference			95% Confidence	Interval
			(I)-(J)	Std. Error	Sig.	Lower Bound	Upper Bound
Bonferroni	SUP	PTM	-.0337	.03509	1.000	-.1199	.0525
		PM	-.0993*	.03509	.019	-.1855	-.0131
	PTM	SUP	.0337	.03509	1.000	-.0525	.1199
		PM	-.0656	.03509	.198	-.1518	.0206
	PM	SUP	.0993*	.03509	.019	.0131	.1855
		PTM	.0656	.03509	.198	-.0206	.1518
Dunnett t (2- sided) ^a	SUP	PM	-.0993*	.03509	.012	-.1786	-.0199
	PTM	PM	-.0656	.03509	.118	-.1449	.0137

(I)-(J)=Construction Team; Sig=Significant; Std=Standard

DISCUSSION

The main objective assessed the factors of transformational leadership style of project managers in the study area. The hypothesis postulated to validate this objective stated that there is no significant variation in the responses to factors of transformational leadership styles among the respondents (construction team) in the study area. The study discovered that a significant variation exists in the perceptions of construction team on the frequencies of usage of factors of transformational leadership style by PMs in Nigeria. In spite of this variation, the entire construction team agreed on high frequencies of three factors. 'Insists on only the best performance' (RAI =0.9758); 'Has a clear understanding of where the project team is going' (RAI=0.9034) and 'Shows the team that he/she expects a lot from them' (RAI=0.8753) do not only enjoy high ranking but also ranked first, second and third respectively by each group of respondents. These factors are intellectual stimulation and charismatic (idealised) influence components of TFLS. They form the core and cardinal responsibility of PM on construction site in Nigeria as personnel saddled with the task of leading subordinate towards achieving a targeted goal. The entire construction team agreed to the frequency of usage of factors of transformational leadership style by the PM in Nigeria. Almost all the factors were ranked with RAI above 0.5. Twenty elements representing 87% were ranked above 0.6 while only three elements representing 13% had the least ranking of between 0.5 and 0.6. There is therefore, high frequency of usage of factors of transformational leadership style in Nigeria construction industry.

The least ranked factors are 'Behaves in a manner that is thoughtful of employee's personal needs'; 'Treats subordinate without considering his/her personal feelings' and 'Is able to get others committed to his/her dreams of the future' with RAIs 0.5657, 0.5651 and 0.5407 respectfully. This shows the level of relationship expected between the PM and the subordinates. The outcome of Kruskal Wallis (H) test analysis led to the rejection of null hypothesis, that implies the perception of frequency of usage of factors of transformational leadership by PM varies among the construction team. However, Bonferroni-Dunnett test conducted showed that significant differences exist between the perception of project supervisor and the rest of construction team. The divergent view of the supervisor is responsible for the source of variation in opinions.

Implications for research, practice and society.

Much as construction workers in Nigeria know what to do on site, without the PM insisting only on the best performance from them, they may turn out lackadaisical attitude toward the job. It is a requirement for the PM to have a firm grip of construction process and procedure, otherwise may be messed up by overzealous supervisor or job-man. In Nigerian construction industry, demonstration of knowledge, skill, discipline and determination by the PM propels the subordinate to follow suit. PM as a leader can only insist on the best performance from subordinates when he/she possesses both visionary and inspirational abilities to drive the subordinates with a clear understanding of project's direction. Once follower's exhaustion and withdrawal tendencies have been reduced according to Bass (1990) through presentation of vision in a clear and compelling manner, the subordinates would have had reasons to strive towards achieving the project's goal.

The unanimous level of agreement by the entire construction team portends the emphasis of transformational leadership style on man management than task management to achieve project objective. Leadership, according to Swensen, Gorringer, Caviness and Peters (2016) is a social process that brings subordinates to work in synergy so as to achieve the mission towards targeted goal. The goal here is successful project delivery with high performance. The least ranked factors suggest the kind of relationship between the PM and the subordinates. The

subordinates that enjoy the attention of PM on his/her personal feelings will strive to give his/her best and vice versa.

The submission of this study is in contrast with the findings of Oke (2010) that concluded that autocratic leadership style is commonly exhibited by Nigerian construction leaders. The opinion of construction team in this study reveals man management capacity of PM as a team leader than task management capacity as a manager. The prime purpose of management according to literature is providing effective leadership which involves directing, controlling and coordinating the activities of a group of persons with a view towards achieving the organisational goal. These are the obligations of a transformational leader with various components of exercising responsibility, authority and power but not completely autocratic.

CONCLUSION AND RECOMMENDATION

From the evaluation of frequency of usage of factors of TFLS, certain factors are found to be common to construction team as being mostly used by the PM for their construction projects. These factors are three and they constitute the main duty of PM on construction project site around the globe and Nigeria is not an exception. The study revealed these three frequently used factors to be “Insists on only the best performance”; “Has a clear understanding of where the project team is going”; “Shows the team that he/she expects a lot from them”. These are intellectual stimulation and charismatic (idealised) influence components of transformational leadership only. The rejection of null hypothesis based on hypothesis validity testing indicated a divergent opinion or perception by all and that the entire construction team share different views on the frequency of usage of factors of transformational leadership styles. The difference existed based on the perception of project supervisor and the rest of construction team. In spite of the difference in perception, the factors that form the principal duty of PM enjoyed unanimous agreement of usage by all the correspondents. The study concludes that based on existing literature on leadership in Nigeria and findings of this study, construction project delivery thrives on not just one particular leadership style. There must be few factors from other leadership style that will be beneficial to construction projects.

The findings also showed that the construction team share divergent opinion on the frequency of use of factors of transformational leadership style. This clearly shows the uniqueness of construction projects, hence, there is a particular style that is unique to it. The leadership of construction project activity is beyond democratic or autocratic form. Therefore, the study concludes that combining active management by exception of TFLS (that are the most frequently used) with these frequently used factors of TFLS (“Insists on only the best performance”; “Has a clear understanding of where the project team is going”; “Shows the team that he/she expects a lot from them” which are intellectual stimulation and charismatic (idealised) influence components) will engender, sustain and boost delivery of construction projects in Nigeria.

The findings of this study when adopted and integrated with beneficial components of other leadership style shall add to the foundation of lexicon for construction project leadership. This alone enriches literature and contribute to knowledge of leadership study in Nigeria and the world at large. Also, it will enhance better project performance and boost delivery. Project managers who adopt a style at odd with ethos of their organisation tends to be unsuccessful, therefore, the findings will be of immense benefit to construction project managers and their employers. Additionally, uncertainty about which leadership style is appropriate for construction projects shall be laid to rest by the outcome of this study.

The research design approach used for the study was cross-sectional, hence, a major limitation to the outcome. The other is the locations considered that represent three out of the six regions that makes up the study area. Using a longitudinal approach to elicit inferences is therefore recommended. Also, extending the scope to other locations will enable comparative analysis of results and findings. The aforementioned could however, be taken care of by conducting further research bearing these in mind.

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