

Project Manager Leadership Style and Design Consultant Satisfaction in the Nigerian Construction Industry

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Leadership is risky to any group setting, especially in today's information age in which technology has altered the operating setting of project managers' leadership style. Successful leadership could be achieved by selecting the right leadership style subject to the level of maturity of the subordinates. Leaders have to switch from one leadership style to another or combine elements of different styles until the right balance between concern tasks and concern for the people is reached. This research investigates the significant role of project managers' leadership style on design consultant satisfaction in the Nigeria construction industry. The research adopted quantitative research method with design empirically validated measures' variables and established a hypothetical framework that links project manager's leadership style with design consultants' satisfaction measured variable. 220 survey questionnaires were distributed out of two hundred and eighty five questionnaires to construction professionals (architect; quantity surveyor; building engineer; services engineer (electrical/mechanical) using stratified random sampling in Abuja and Lagos. The research validated the framework with structural equation modeling (SEM). The factor's loadings for the variables measures were significant and Cronbach Alpha factors of 0.912 and 0.825 for project managers leadership style and design consultants satisfaction respectively was achieved. The research finding display that project manager's leadership style demonstrated significant influence on design consultants' satisfaction. The study serves as a guide to the construction industry on the effect of each project manager's leadership style (participative, inspirational and charismatic style of leadership) in increasing design consultants' satisfaction in the construction industry. The study concluded that design consultant satisfaction and overall efficiency and performance of a project can be improved by selecting a leader with participation, inspirational and charismatic leadership behaviour.

Keywords: Construction Industry, Job Satisfaction, Leadership Style, Project Managers and Structural Equation Modeling

Introduction

The most widely used procurement route in building projects in Nigeria today is traditional procurement (Ogunsanmi, 2013; Babatunde, Opawale & Ujaddugbe, 2010). One of the key features of this procurement route is the separation of design and the construction process (Ojo, Adeyemi, & Fagbenle, 2007). The main and sub-contractor(s) handle the construction process, while the design work and pricing is carried out by a team of construction professionals namely: Architect; Quantity surveyor; Building engineer; Services

engineer (electrical/mechanical). Although, the works of these construction professionals are interrelated, each specialist is engaged under separate contractual arrangement with the client. According to Cheung *et al.* (2001), the services typically rendered by the design team are customarily unstructured, vastly undefined and most times full of crises and therefore a close coordination between design team members is vital to avoid the common problems within design teams such as exchange of inadequate project information and unnecessary time delay.

Close coordination also helps to establish a defined line of authority. Usually, a project manager is appointed to do this coordination (Odusami, Iyagba, & Omirin, 2003). Such a project manager needs to gain the trust and respect of other team member for efficient team working. According to Miles and Mangold (2002), team member's cooperation can only be achieved if they are satisfied with the leadership style of the project manager whereas a dissatisfaction of team member's with the project manager leadership style will adversely affect the team member's morale and ultimately

productivity of the design team. Leadership though difficult to assess, can be express by the project manager leadership style. According to Iqbal, Anwar and Haider (2015), leadership style can increase or decrease team members satisfaction. This paper seeks to establish the relationship between project manager transformational leadership behaviours and the satisfaction of the design team members. Figure 1 is the hypothesized measurement model of leadership styles and design team satisfaction.

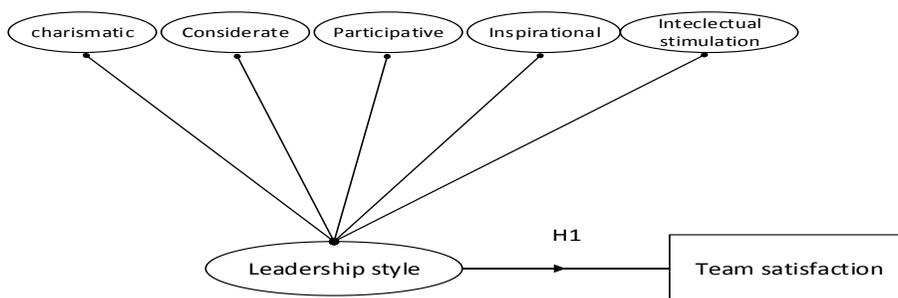


Figure 1: Hypothesized Measurement Model of the leadership style and design team satisfaction

Literature Review

Leadership

Leadership means different things to different researchers and each has different focus of leadership. Some researchers have defined leadership in terms of group process, traits, behaviours, position, personality, responsibility, or as an instrument of goal achievement. According to Kezsbom and Donnelly (cited in Ogunlana, *et al.*, 2002) leadership is a social stimulus in which the leader seeks the participation of individual in an effort to attain organisational objectives. In sum, leadership is said to embrace nature of influence and the character of individuals who are defined as leaders. According to Limsila and Ogunlana (2008), there are three measurable factors that define project manager leadership quality. These are:

- Effectiveness: the leader's efficiency in achieving organizational outcomes, objectives, goals and subordinates' demands in their job;

- Satisfaction: the extent to which subordinates are satisfied with the behaviour of their leader, and the leader performs with others in a satisfactory way and
- Extra effort: the extent to which the leader can increase subordinates' hoping to succeed and make subordinate's effort higher than their normal rate.

Project Manager Leadership Skills

Researches have shown that leadership skills and personality traits of project manager affect project performance. According to Onosakponome *et al.* (2001), human factors play an important role in determining the performance of a construction project. They opined that a project manager, who has strong leadership skills with great experience and technical qualification produce a good performance in terms of time, cost and quality, productivity and safety of construction projects. Similarly, Ekung and Ujene,

(2014) establish that personality traits are essential components of effective leadership

Leadership styles

In literature, leadership has been branded in diverse ways often centred on individual understanding and specific discipline (Avery & Baker, 1990; Gibson, *et al.*, 2003; Hartog, *et al.*, 1997). This study is based on Blanchard and Hersey model. Blanchard and Hersey (1969) categorised leadership styles in relations of the amount of direction and support that the leader offers to his or her followers. They submitted that successful leadership could be attained by picking the right leadership style subject to the level of maturity of the subordinates. Therefore, leaders may have to shift from one leadership style to another or combine components of diverse styles until the precise balance between concerns for task and concern for people is gotten.

The process of influencing team members is transformational; therefore leaders must influence their members' attitude by helping them to look at old problems in new ways. In this way, leaders are able to excite, arouse and inspire members to inject extra effort to achieve the group goals (Bass, 1985). According to Vinger and Cilliers (2006), Bass identified four transformational leadership behaviours viz: Charismatic (idealised influence) – transformational leaders arouse strong emotions from followers as a result the followers want to identify with and emulate the leader. They display very high moral standard and demeanour and can be counted on to do the correct thing.

Considerate (individualised consideration) – encompasses providing support, encouragement, coaching delegation, advice and feedback for use in the individual growth of followers. While Intellectual stimulation leader stimulates their team

member by increasing awareness of problem and influences followers to view problems from a new viewpoint. Followers are stimulated to be creative and innovative. Inspirational (inspirational motivation) – includes developing and communicating an appealing vision using symbols and images to focus the efforts of subordinates' and forming behaviour that are considered suitable.

Leadership and team satisfaction

Construction design teams are project based; matrix structured; temporary organisation assembled to achieve definite design assignment (Giritli & Oraz, 2004). In this sort of arrangement each team member is accountable to his/her mother organisation as well as reporting to the project manager. Since design team member have to safeguard the interest of the mother organisation in performing their subordinate role as highly skilled professionals; intra-group conflict such a competition for space and time, aesthetics against technical criteria are common; as such effective teamwork may not be imminent with traditional procurement (Cheung *et al.*, 2001). Therefore, a project manager should be that person who can ensure team spirit and give the required support they need; in satisfying their personal needs to operate effectively (Kotter, 1990; Stewart, 1997). Figure 2 shows a typical management structure with Project Manager in charge. According to Masadeghrad and Ferdosi (2013), studies on job satisfaction have shown that employees are more satisfied with leaders who are considerate and supportive than the leaders who are indifferent and hostile towards their subordinate. A leader being considerate, supportive, indifferent or hostile as to do with attitude and could therefore be expressed through the leadership style.

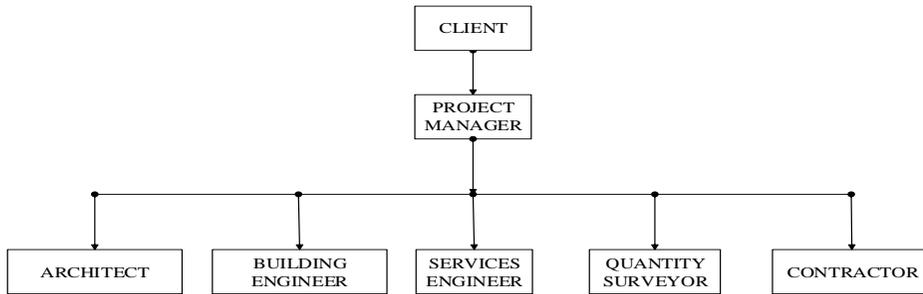


Figure 2: Typical Management Structure with Project Manager

Source: Odusami *et al.* (2003)

Job Satisfaction

Job Satisfaction is the vital constituent for employee motivation and encouragement towards better performance. Several researchers have defined, discussed and researched job satisfaction over the years. According to Ilies, Wilson and Wagner, (2009), job satisfaction is defined “as an attitudinal evaluative judgment of one’s job or job experiences”. The implication is that, job satisfaction is linked to the degree to which the employee’s work-related expectations match his/her experiences in the work environment. Furthermore, employee satisfaction is the measure that tells about a worker’s general emotion about its workplace and job expectations. And a worker’s job expectations are directly related to his/her personality and the worker’s character (Wright & Davis, 2003). It measures his approach towards the job and the extent to which the job is gratifying the worker’s needs. From the viewpoint of the worker, job satisfaction increases when his/her work is more interesting leading to high workers morale which is usually reflected in their performance; but with low morale, they will make lesser efforts to improve (Luthans,1998). According to Javed, Balouch and Hassan (2014), many academics have come to the conclusion that, to measure the intentions of an employee to their workplace the satisfaction level of workers is used. Other factors suggested for consideration by researchers include enthusiastic behaviour, hygiene factors, managerial responsibility and workplace environment by building on different theories, (Darrow, 1971; Igalens & Roussel, 1999; Brewer *et al.*, 2008; Ahsan *et al.*,

2009; Kuo *et al.*, 2007 as cited in Javed *et al.*, 2014)).

Research Methodology

A questionnaire was developed based on Bass and Avolio (1992) multifactor leadership questionnaire. This instrument was used to measure transformational leadership systematically. According to Tejeda (2001), this instrument is referred to as the most frequent and well research and validated instrument on leadership globally. Furthermore, participative leadership behaviour was included in the questionnaire, because participative behaviour are also transformational and such behaviour encourage participation from team members through appropriate delegation etc. A stratified random sampling procedure was adopted for the study. Two hundred and twenty valid questionnaires were used from two hundred and eighty five questionnaires distributed to qualified project managers and professionals (Architect; Quantity surveyor; Building engineer; Services engineer (electrical/mechanical) in Abuja and Lagos. This gives a response rate of 77%. Multivariate analysis was used to explore the relationship and covariance in the measurement model among the variables of leadership style and design team satisfaction. Structural equation model method was adopted to test index of the measured variables of leadership style and observed variable of design team satisfaction of the conceptual or hypothesized model. The causal relation between the observed variables and the causality in the models was determined

using multiple regression model analysis method for the observed variables of leadership style and design team satisfaction. Exploratory factor analysis (EFA), regression analysis, path analysis was used. EFA showing the five variables of leadership style (charismatics, considerate, participative, inspirational and intellectual stimulation) and design team satisfaction with Kaiser-Meyer Okin measures with Bartlett's test (KMO) was found to be significant for all the observed variable at $<.001$. The maximum likelihood estimate for the items was adopted in dimension reduction. All variables of leadership style and design team satisfaction that loaded ≤ 4.99 were not considered for initial first-order analysis as suggested by various researchers (Byrne, 2013; Cohen, 2013; Harlow, 2014). Furthermore, for initial confirmatory factor analysis (CFA), the design team satisfaction factors that loaded above 0.7 were transformed to measurement model of an observed variable using SPSS version 22 as suggested by various researchers (Hair Jr *et al.*, 2013; Henseler & Sarstedt, 2013; Hooper *et al.*, 2008).

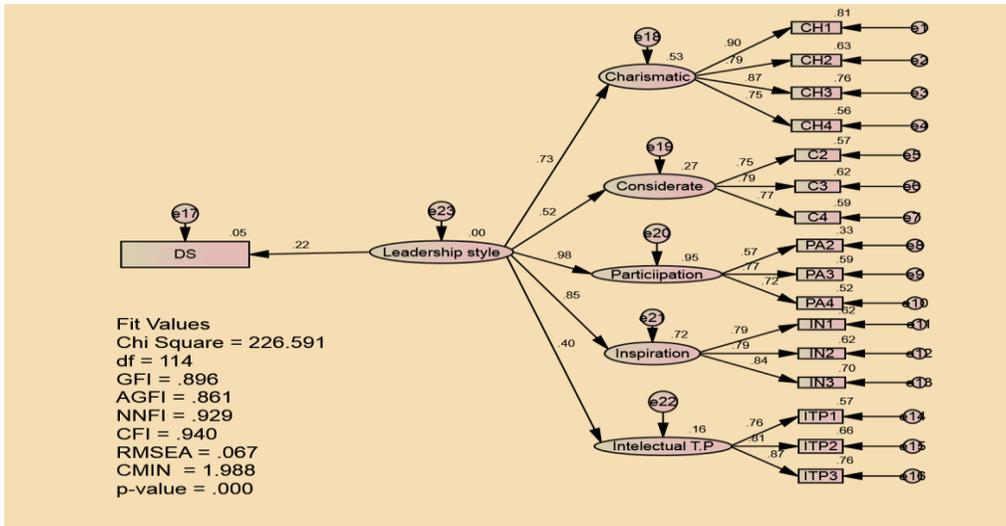
Data Analysis

Normality and outlier, assessments were used for data analysis and the result shows one missing values through data screening. SPSS version 22 was adopted using substitution method for the missing data because of small number as suggested by (Hancock & Mueller, 2013; Harlow, 2014). However, to determine the normality distribution during the substitution method of missing data, skewness and kurtosis test with leaf plots was adopted. Nearly, all the variables lie amid -4.34 and 0.81 for skewness and -1.260 – 0.36 for kurtosis, which is within the suggested values of ± 2 (skewedness) and ± 7 (kurtosis) by (Hancock & Mueller, 2013; Ullman & Bentler, 2003) Kurtosis recorded an estimated constructs of 44.351, while various researchers suggested values of < 50 in an absolute world by (Wang & Wang, 2012; Zainudin, 2012). Marcoulides and Schumacker (2013) suggested that discriminant validity be evaluated based on

the measurement model and should be free from redundant items in term of modification indices (MI).

Result

Unidimensionality of the model is reached by deleting all factors loading < 0.6 , whereas the model convergent validity is realised using Average Variance Extracted (AVE) for every construct to be ≥ 0.5 as suggested by (Andrew, 2013; Bentler, 1990). The internal consistency of the model and composite reliability (CR) were evaluated and attained with $CR \geq 0.6$ as suggested by (Bollen, 2011). AMOS (analysis of moment structure) version 22.0 was used to test the model fit. All variables of project managers leadership style and team satisfaction in respective hypothesized model loaded ≥ 0.6 as suggested by (Byrne, 2012). Using path analysis with the maximum likelihood estimates, the result shows that acceptable goodness of fit was achieved, with Chi-square = 266.591, $df = 114$, $GFI = .896$, $AGFI = .861$, $CFI = .940$, $NNFI = .926$ and $p = .005$, $RMSEA = .067$, and $CMIN = 1.988$, all within the range recommended by various researchers (Field, 2013; Gefen *et al.*, 2000). The structural model in Figure 3 and Table1 shows the latent relationship to the construct using the standardised method. All measurement variables of latent constructs to the construct have path loadings ranging from 0.40 to 0.98 (supported) and the main hypothesis measures 0.22 (supported). A modified measurement model, which complied and fitted the data well, was considered the appropriate answer for the specific research CFA. Original latent constructs for leadership style contain five indicators designed to measure the construct (charismatics, considerate, participative, inspirational and intellectual thought provoking). The results of CFA show that all indicators satisfy the requirements for the second-order measurement recommendations by various researchers (Cohen *et al.*, 2013; Comrey & Lee, 2013). Meeting the criteria for practically significant loadings above approximately 0.2 recommended by researchers (Hirschberg & Humphreys, 2014).



Note: DS= design satisfaction, CH= charismatics, C= considerate, PA= participation, IN= Inspiration, ITP= Intellectual thought provoking

Figure 3: Measurement Model of the leadership style influencing design team satisfaction

Table 1: Measurement of Variance Analysis, Validity and Composite Reliability of Measurement Model for leadership style

Construct	Indicators	Loadings of factors	Cronbach Alpha	Average variance	Composite reliability	T-value
Charismatics	CH1	0.90	0.82	0.694	0.720	18.444
	CH2	0.79				
	CH3	0.87				
	CH4	0.75				
	CH5	Deleted				
	CH6	Deleted				
Considerate	C1	Deleted	0.77	0.614	0.675	12.078
	C2	0.75				
	C3	0.79				
	C4	0.77				
	C5	Deleted				
	C6	Deleted				
Participation	PA1	Deleted	0.68	0.563	0.687	15.478
	PA2	0.57				
	PA3	0.77				
	PA4	0.72				
	PA5	Deleted				
	PA6	Deleted				
Inspirational	IN1	0.79	0.79	0.612	0.634	13.432
	IN2	0.79				
	IN3	0.84				
	IN4	Deleted				
	IN5	Deleted				
	IN6	Deleted				
Intellectual thought provoking	ITP1	0.76	0.81	0.651	0.680	14.234
	ITP2	0.81				
	ITP3	0.87				
	ITP4	Deleted				
	ITP5	Deleted				
	ITP6	Deleted				

Table 2 shows a summary of the coefficient loading for the factors, which are also used in assessing the reliability of the model. Assessment of normality was conducted to identify problematic or latent factors. Practically, multivariate normality depends on the univariate normality of individual variables, while bivariate normality depends

on pairs of variables. Many researchers believe that if most univariate skewness and kurtosis are less than ± 1 in absolute value, indicating that univariate normal distribution was achieved. The figure presented in Table 2 is less than 1 this confirms that univariate normal distribution was achieved

Table 2: *Summary of Construct Results for Structural Equation Model*

Hypothesis	Hypothesised Path	Path Coefficient	Result
H ₁	Leadership style can positively influence design team satisfaction	0.22	Supported

Source: Author's Field survey 2017

Discussion

Designs in construction work are specialised, non-routine, computerization and requires inputs from diverse professional design team members. As a result leadership play a vital role of synergizing these inputs in the design combination process; this makes leadership very important during the design stage and particularly in project management. This study identifies that participative, inspirational and charismatic leadership behaviour as the utmost leadership behaviour as far as design consultants' satisfaction is concerned with factor loadings of 0.98, 0.86 and 0.73 respectively. The finding in this study provides valuable insight for project managers that effectiveness of team members relates directly to participative, inspirational style of leadership and charismatic behaviour. Such leaders allow participation of team member making them feel gratified to be associated with the team.

Conclusion

The research was investigated to better recognize leadership style and design team satisfaction in Nigerian construction organization context, which is founded upon the work training approach that is branded by the practices of the leadership style during the course of construction work. The scrappy nature of design task requires that project manager be effective; especially where the design team constitute of highly skilled professionals. However, the research adopted 5 valid variables for leadership style and 2 measured valid

variables for design team satisfaction that can be used as a reference to further studies. Based on the findings, this study concludes that there is a relationship between project manager leadership behaviour (participative, inspirational and charismatic leadership style) and design consultants' satisfaction and overall efficiency. This implies that performance of a project can be improved by selecting a leader with a participation style, inspirational style and charismatic leadership behaviour. Additionally, the findings contribute to understanding leadership style and its impacts. It can therefore help practitioners and project managers in the construction industry by providing guidance regarding how to identify key variables that affect leadership style in the construction project performance. Thereby safeguard the appropriate allocation of available means in enhancing participative style of leadership, inspirational and charismatic styles. The model was frugal but can be endangered from other confines; so separate study from several localities with idiosyncratic data collection is needed to advance the firmness and level-headed ness of the model.

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