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CHARACTERISTICS OF SITE SUPERVISION TASK OF PROFESSIONALS IN NIGERIAN CONSTRUCTION FIRMS

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ABSTRACT

Purpose: The purpose of this paper is to examine the prevalence of task characteristics in construction professionals' task in Nigeria.
Design/methodology/approach: Based on Hackman and Oldham job characteristics theory, the task characteristics profile of construction professionals employed as site supervisors in construction firms were determined. A descriptive survey design was adopted for the study. Using 218 copies of questionnaire distributed randomly to professionals in construction firms, the prevalence of task characteristics in professionals' task was investigated and the hypothesis which states that there is no significance difference in task characteristics among construction professionals was tested. Kruskal Wallis H test was used to test the hypothesis.
Findings: The results of the analysis indicated that there is prevalence of task characteristics in construction professionals' task and that there is no significant difference in task characteristics among construction professionals.
Research limitations/Implications: The copies of questionnaire were self-rated by site supervisors.
Practical implications: Construction professionals should work in construction firms that allow them to use variety of skills, make decisions, use their discretion, execute task that are significant to people, environment and the world at large and finally firms that give information and feedback on the task carried out.
Originality/value – The result of this study makes a contribution to knowledge in that task characteristics are prevalent in site supervisory task and professional categorization of site supervisors do not affect the characteristics of site supervisory task in construction industry.

Keywords: Construction, construction firms, construction professionals, task characteristics, Nigeria

1. INTRODUCTION

The characteristic of a task is an important determinant of employee disposition to the task and performance at work (Hackman & Oldham, 1976). The construction industry is performance driven as it is expected that project must start and end at the stipulated time and within budget (Chan & Chan, 2012). Negative attitude to job due to the characteristics of the job affects the cost performance of a project (Iyer & Jha, 2005). Suleiman (2013)

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attributes the low performance of professionals to poor attitude to work. Such attitudes include absenteeism, unsatisfactory and general low performance (Maslach, Schaufeli & Leiter, 2001). The characteristics of a task therefore relates to individual responses to task (Faturochman, 1997). Thus, the job characteristics theory was designed by Hackman and Oldham (1976) in order to enrich and motivate individual for improved performance.

Previous studies like Ling and Loo (2013) identified job characteristics that significantly affect construction project managers' satisfaction with their jobs and work outcomes while Yang (2015) investigated the moderating role of task characteristics in the relationship between technological innovation and project success. Onukwube and Iyagba (2011) examined the relationship between task characteristics and task performance of professionals in indigenous and multinational construction firms in Nigeria. However, comparatively little attention has been paid to work design in construction industry as there is limited literature addressing the prevalence of professional task characteristics. Therefore, given that the nature of a task determines individual responses to task, it is pertinent to study the nature of construction professionals' task. The study therefore aims at investigating the prevalence of task characteristics in construction professionals' site supervisory task in order to have a work design that will motivate and satisfy them. This will help to prevent high turnover, absenteeism, unsatisfactory at work and low performance of construction professionals. Construction professionals are limited to professionals engaged by construction firms for the sole purpose of site supervision, thus their task is majorly on site supervisory task. This is to aid in determining similar task characteristics since different task will not give the real nature of the task. Also, the professionals engaged as site supervisors in this study include Architect, Builder, Quantity Surveyor, Civil Engineer and Project Manager.

2. LITERATURE REVIEW

2.1. Job Characteristics Theory

The job characteristics theory is based on the premise that work design affects the psychological state of an individual (Hackman & Oldham, 1976). It was developed to identify important dimensions of a task as it affects motivation (Cunningham, 2016). Authors (Kim & Soergel, 2005; Indartono & Chen, 2010) conceptualized job characteristics as task characteristics while Griffin, Welsh and Moorhead (1981) referred to work design as task design.

Hackman and Oldham identify five dimensions of job characteristics as skill variety, task identity, task significance, autonomy and feedback. Previous studies (Choudhary, 2016; Gu-Ne & Young-Min, 2015; Park, 2017) adopted Hackman and Oldham five dimensions of job characteristics, other studies included task complexity, task analyzability, task difficulty, task routineness and task structuredness (Kim & Soergel, 2005); task ambiguity, task conflict norms, task complexity and task creativity (Shih & Chang, 2013). Kim and Soergel as well as Shih and Chang dimensions of job characteristics show that the nature of task is not described by only five dimensions but there are other characteristics that describe a task. The study therefore adopts the following dimensions as construction professionals' task characteristics, skill variety, task identity, task significance, autonomy and feedback, task complexity, task analyzability, task difficulty, task routineness and task structuredness.

The main concept of job characteristics theory is that a task is redesign to have the following attributes skill variety, task identity, task significance, autonomy and feedback. This will make an employee to experience meaningfulness at work, experience responsibility and have knowledge of result. The whole idea is to have a better work performance in terms of outcome. When an employee experiences these natures of tasks, it will generate a passion for the work, and reduces stress (Gu-Ne & Young-Min, 2015). When a task is also characterised by certain level of discretion and independence, then an employee can make a physical and cognitive changes in a given task (Gu-Ne & Young-Min, 2015). This means that when an individual is given freedom to make decision, then there will be an increase in innovation activities. When employees are given the freedom to innovate, then they will experience meaningfulness at work. Employee tasks that are ambiguous are detrimental to process satisfaction and personal performance, while the ones characterised by conflict norms and task creativity promote process satisfaction and personal performance in an innovative project (Shih & Chang, 2013).

2.2. Task Characteristics of Construction Professionals

Construction professionals' task characteristics can be defined as the nature or attribute that can be used to describe construction professional task. This includes skill variety, task identity, task significance, autonomy and feedback, task complexity, task analyzability, task difficulty, task routineness and task structuredness. In construction, Ling and Loo (2013) used the five dimensions of Hackman and Oldham job characteristics to find the effect of job characteristics on job satisfaction and performance. They concluded that job characteristics affect both job satisfaction and performance. Onukwube and Iyagba (2011) examined the relationship between job characteristics and task performance using the five dimensions of Hackman and Oldham job characteristics theory, a positive significant relationship was reported by them. Although, these studies were done in construction industry, task characteristics were limited to the five dimensions in Hackman and Oldham job characteristics. The other five dimensions were not considered.

Skill Variety is the degree to which a task requires a variety of different skills or activities to execute the task. It also involves the use of different skill and talent (Hackman & Oldham, 1976). When construction professionals find that they need varieties of skills and talent to execute their task, then they will find the task exciting and meaningful. This will be easy to achieve in construction as each construction project is unique and requires different skills to execute them.

Task Identity is the degree to which the job requires a completion of a whole and identifiable piece of work on the job from the beginning to the end with visible outcome (Hackman & Oldham, 1976). When a construction professional complete his/her task from the beginning to the end with visible outcome (completed structure), then meaningfulness at work will be experienced by the professional.

Task Significance is the degree to which the job has substantial impact on the lives of people whether directly in the organisation or in external environment/world at large (Hackman & Oldham, 1976). When a construction professional understands that the results of his task affect people and the environment significantly, then he will be motivated to perform that task and as such experience meaningfulness at work.

Autonomy is the degree to which a task provides substantial freedom, independence and discretion to individual in scheduling work and determining the procedure for executing it (Hackman & Oldham, 1976). Construction professionals with autonomy in their task have the freedom to schedule work and discretion to determine the procedure of

carrying out construction activities. This will make construction professionals to experience responsibility for outcome of the construction project.

Feedback is the degree to which an individual receive direct and clear information about the effectiveness of his/her performance after carrying out the task (Hackman & Oldham, 1976). Construction professional with knowledge of actual results of work activities will be motivated further to perform better than the present performance.

Task Analyzability is the degree to which a task has a clearly defined sequence of steps with established procedures (Kim and Soergel, 2005). Construction project involves a clearly defined steps with established procedure to execute it, therefore there is tendency for construction professional's task to be characterised by task analyzability. Thus, construction professionals will be satisfied with their task.

Task Difficulty: Task difficulty is the degree to which a task requires a great effort to accomplish it (Kim & Soergel, 2005). Construction project involves a great effort to accomplish it from inception to completion. Thus, construction professionals may find their tasks not exciting as it requires great efforts to execute them.

Task Routineness is the degree to which an individual requires a habitual method of carrying out the task (Kim & Soergel, 2005). When construction professionals use the same method to execute their task, then there may be possibility of feeling the task is boring. However, construction project is dynamics although it may require a routine method in some instances, but majorly each project is unique.

Task Complexity is the degree to which the task is complex and complicated in structure (Kim & Soergel, 2005). It is also the degree to which a task has interrelated subtasks which can be expressed as psychological experience of task-doer and interaction between task and person characteristics (Shih & Chang). Construction projects involve different activities with interrelated subtasks and as such could affect the psychological state of construction professionals.

Task Structuredness is the degree to which a task involves the application of a limited number of rules and principles with well-defined parameter. It is also the degree to which the task has multiple solutions (Kim & Soergel, 2005). Construction task involves the application of rules and principles with well-defined parameter. This is seen in the application of building codes during construction.

Mustapha and Naoum (1998) identify the task of site supervision as liaison with sub-contractors over dates and attendance, controlling acceptable quality standard, overall responsibility for site safety and working conditions, ensuring smooth flow of resources, attending site meetings and keeping site workers up to date, rearranging the works and programme to cater for changes and delays. Others include liaising with the design team, particularly the architect and professional quantity surveyor and ensuring a smooth flow of resources- men, machines and materials as and when required.

From the ten dimensions of task characteristics identified, the study therefore examines the prevalence of these task characteristics among professionals in construction firms and further tests the hypothesis that 'there is no significant difference between task characteristics of construction professionals'.

3. METHODOLOGY

3.1 Sample and Data Collection

The study adopted a descriptive survey design. The sample unit for this study is construction firm while the sample elements are construction professionals working in

selected construction firms. This is because information is required from construction professionals located in the construction firms. The sampling frame which is the source list is gotten from Federation of Construction Industry (FOCI) list of contractors, Building price book, Lagos State Tenders Board list of registered construction contractors and Nigeria yellow book directory. The list consists of Three hundred and seven (307) construction firms. With simple random technique, the sample size was arrived at using the formular $n = \frac{Z^2 .N. \delta^2_p}{e^2 (N-1) + Z^2.\delta^2_p}$

Where n = Sample size

N = Population size (307)

e = Level of precision (5%)

Z = Value of standard normal variant at a given confidence level (1.96)

δ^2_p = Standard deviation of the population (0.5)

A total of 170 sample sizes were arrived at. This implies that the total sample size for the study will not be less than 170, thus 256 was adopted as sample size. A copy of questionnaire was distributed to one construction professionals working as site supervisors in each 256 selected construction firms because there is no sampling frame for construction professionals. Of the 256 questionnaires distributed, a total of 218 questionnaires were valid and used for the analysis representing 85%.

3.2 Measures

The instrument for measuring task characteristics of construction professionals was a modified version from Hackman and Oldham (1976) and Kim and Soergel (2005). The Instrument consists of 10 dimensions of task characteristics with 24 items. Each dimensions of task characteristics was measured on a five point likert scale ranging from 1- strongly disagree, 2-diagree, 3-undecided, 4-agree, 5-strongly agree. This was meant to find out the level of agreement of construction professionals on the prevalence of task attributes in their task. The task dimension 'skill variety' was measured as a latent variable (likert scale type) and it consists of two items (likert item type) 'my tasks involves the use of variety of skills to execute them', 'I have a variety of tasks to perform'. Thus, a mean skill variety score was computed by averaging respondents' responses on the 2-item skill variety measure. All items used in the analyses are given in the appendix. The reliability of the scale was .889 (task characteristics). The cronbach alpha for each task characteristics ranges from .911 (skill variety), .899 (task identity), .904 (task significance), .900 (autonomy), .906 (feedback), .897 (task analyzability), .900 (task difficulty), .905 (task routineness), .899 (task complexity), task structuredness (.895).

3.3 Analysis

The mean and standard deviation for task characteristics was calculated to determine the prevalence of task characteristics in construction professionals' task. Kruskal Wallis H test was used to test the difference in task characteristics among construction professionals. The criterion for acceptance or rejection of the hypothesis was based on the rule that when *p* value is less than or equal to 0.05, then it is statistically significant, thus the hypothesis is accepted. When *p* value is greater than 0.05, then it is statistically non-significant, therefore the hypothesis is rejected.

4. PRESENTATION AND DISCUSSION OF RESULTS

4.1. Presentation of Results

The prevalence of site supervisors' tasks was examined with the view to achieving the aim of the study. Thus the mean of each task characteristics was calculated.

Table 1: Prevalence of task characteristics in construction professionals' task

Task Characteristics	1	2	3	4	5	Total	MS
Task Significance	**1**	**6**	**24**	**94**	**92**	**217**	**4.24**
Indicator 1	1	5	19	89	104	218	4.33
Indicator 2	1	6	28	96	86	217	4.20
Indicator 3	2	6	26	96	86	216	4.19
Skill Variety	**11**	**7**	**20**	**100**	**87**	**218**	**4.17**
Indicator 1	11	9	20	99	79	218	4.04
Indicator 2		4	20	100	94	218	4.30
Autonomy	**1**	**4**	**25**	**113**	**73**	**216**	**4.17**
Indicator 1	1	3	35	101	78	218	4.16
Indicator 2	1	4	23	122	63	213	4.14
Indicator 3	1	5	18	117	77	218	4.21
Task Identity	**3**	**11**	**28**	**94**	**82**	**218**	**4.11**
Indicator 1	5	13	35	110	55	218	3.90
Indicator 2	2	11	31	92	81	217	4.10
Indicator 3	2	9	17	81	109	218	4.31
Feedback	**5**	**7**	**27**	**107**	**71**	**217**	**4.07**
Indicator 1	1	6	30	110	70	217	4.12
Indicator 2	3	9	22	113	71	218	4.10
Indicator 3	12	6	28	99	72	217	3.98
Task Analyzability	**3**	**8**	**33**	**116**	**60**	**217**	**4.03**
Indicator 1	3	7	30	123	54	217	4.00
Indicator 2		9	35	108	65	217	4.06
Task Difficulty	**4**	**24**	**36**	**79**	**75**	**216**	**3.91**
Indicator 1	3	24	50	77	62	216	3.79
Indicator 2	5	23	21	80	87	216	4.02
Task Structuredness	**5**	**17**	**39**	**103**	**55**	**218**	**3.85**
Indicator 1	8	22	43	108	36	217	3.65
Indicator 2	2	11	34	97	74	218	4.06
Task Complexity	**7**	**26**	**37**	**88**	**61**	**218**	**3.78**
Indicator 1	6	18	36	87	71	218	3.91
Indicator 2	7	34	38	88	50	217	3.65
Task Routineness	**10**	**25**	**50**	**88**	**47**	**218**	**3.63**
Indicator 1	7	14	51	96	50	218	3.77
Indicator 2	12	35	48	80	43	218	3.49
Overall Task Characteristics	**5**	**13**	**32**	**98**	**70**	**217**	**4.02**

The mean and standard deviation for task characteristics is shown in Table 1. The mean values were interpreted using the following scales, 1.00-1.49 means strongly agree; 1.50-2.49 means disagree, 2.50-3.49 means undecided; 3.50-4.49 means Agree and 4.50-5.00 means strongly agree. The result of the mean which ranges from 4.24 to 3.63 and the overall mean (4.02) shows that construction professional agreed that there is prevalence of task characteristics in their task. This indicates that the task of construction professionals are frequently characterised by skill variety, task identity, task significance, autonomy, feedback, task analyzability, task difficulty, task routineness, task complexity and task structuredness. The standard deviation for the overall task characteristics (0.54) relative to the value of overall task characteristics mean (4.02) shows that there is little fluctuation on the level of agreement of prevalence of task characteristics among construction professionals.

Table 2: Differences in task characteristics among construction professionals

Parameters	N	Mean Rank	X^2	df	P-value	Sig.	Decision
Skill Variety			6.028	4	0.197	NS	Accept
Architecture	23	90.72					
Building	96	112.19					
Quantity Surveying	25	97.08					
Civil Engineering	67	119.04					
Project Management	7	87.43					
Total	**218**						
Task Identity			6.305	4	0.177	NS	Accept
Architecture	23	114.93					
Building	96	117.61					
Quantity Surveying	25	85.28					
Civil Engineering	67	106.88					
Project Management	7	91.93					
Total	**218**						
Task Significance			6.424	4	0.170	NS	Accept
Architecture	23	114.57					
Building	96	106.88					
Quantity Surveying	25	96.18					
Civil Engineering	67	120.58					
Project Management	7	70.36					
Total	**218**						
Autonomy			2.254	4	0.689	NS	Accept
Architecture	23	106.96					
Building	96	110.14					
Quantity Surveying	25	99.66					
Civil Engineering	67	115.51					
Project Management	7	86.79					
Total	**218**						

Table 2: *Continued…*

Parameters	N	Mean Rank	X^2	df	P-value	Sig.	Decision
Feedback			7.216	4	0.125	NS	Accept
Architecture	23	120.63					
Building	96	118.58					
Quantity Surveying	25	97.2					
Civil Engineering	67	100.88					
Project Management	7	74.79					
Total	**218**						
Task Analyzability			7.61	4	0.107	NS	Accept
Architecture	23	110.11					
Building	95	116.64					
Quantity Surveying	25	86.86					
Civil Engineering	67	110.01					
Project Management	7	71.07					
Total	**217**						
Task Difficulty			9.615	4	0.047	SS	Reject
Architecture	23	93.91					
Building	94	110.94					
Quantity Surveying	25	80.46					
Civil Engineering	67	121.22					
Project Management	7	102					
Total	**216**						
Task Routineness			4.346	4	0.361	NS	Accept
Architecture	23	111.8					
Building	96	116.46					
Quantity Surveying	25	88.5					
Civil Engineering	67	107.61					
Project Management	7	99.5					
Total	**218**						
Task Complexity			8.27	4	0.082	NS	Accept
Architecture	23	90.04					
Building	96	113.13					
Quantity Surveying	25	93.74					
Civil Engineering	67	120.32					
Project Management	7	76.43					
Total	**218**						
Task Structuredness			8.331	4	0.080	NS	Accept
Architecture	23	106.02					
Building	96	110.07					
Quantity Surveying	25	86.14					
Civil Engineering	67	121.98					
Project Management	7	77.14					
Total	**218**						

Table 2: *Continued…*

Parameters	N	Mean Rank	X^2	df	P-value	Sig.	Decision
Overall Task Characteristics			8.263	4	0.082	NS	Accept
Architecture	23	103.24					
Building	96	115.21					
Quantity Surveying	25	85.64					
Civil Engineering	67	116.56					
Project Management	7	69.43					
Total	**218**						

In testing the hypothesis using Kruskal-Wallis H test, a non-significant difference was found in all the characteristics of site supervisory task except for task difficulty, thus the hypothesis that states that 'there is no significant difference between task characteristics of construction professionals' was accepted at *p*-value > 0.05. See table 2 for the mean ranks. Builders, Civil Engineers, Architects, Quantity Surveyors and Project Manager did not differ on the prevalence of task characteristics in their task. This suggests that construction professionals did not differ on the prevalence of skill variety, task identity, task significance, autonomy, feedback, task analyzability, task routineness, task complexity and task structuredness. The implication is that the effect of prevalence of site supervisory task characteristics is not due to the categorization of construction professional.

A Kruskal-Wallis H test also shows that there was a statistically significance difference in task difficulty between construction professionals. Thus, the hypothesis which states that 'there is no significant difference in task difficulty due to construction professional categorization was rejected at *p*-value < 0.05. Civil Engineers, Builders, Project Managers, Quantity Surveyors and Architects differ on the reported level of prevalence of task difficulty. $x^2(4) = 9.615$, $p = 0.047$, with mean rank task difficulty of 93.91 for Architect, 110.94 for Builders, 80.46 for Quantity Surveyors, 121.22 for Civil Engineer and 102.00 for Project Managers. This shows that the level of prevalence of task difficulty in construction professionals' task is different for all professionals. This also means that the level at which their task requires great physical effort to accomplish and great mental effort to comprehend is not the same for all the professionals. The implication is that the effect of task difficulty was due to the categorization of construction profession.

4.2. Discussion of Results

The aim of the study was to examine the prevalence of task characteristics in construction professionals' site supervisory tasks. The result indicated that there is prevalence of task characteristics in construction professionals' site supervisory tasks. This means that the supervisory task of construction professionals frequently have substantial impact in the lives of people such as in their immediate environment or the world at large. The end products of construction have significant impact on people's lives because one of the basic needs of man is shelter, which is provided through construction of buildings and structure by construction professional, hence, one of the natures of site supervisory task is task significance. This agrees with Mukul, *et al*. (2013) findings of top management considering the task done by their workers as having substantial impact on people lives or world at large. Also, construction professionals' site supervisory task frequently requires a completion of the task from the beginning to the end. This is due to the fact that it is expected that a construction project should start and end and not abandoned. Abandonment

of construction project can lead to disappointment of the populace and reduction in employment opportunities (Ayodele & Alabi, 2011).

Another finding is that the use of variety of skills or talents to execute construction project is very common in the task of construction professionals as construction projects require technical and managerial skills to execute them. This supports the work of Oladiran (2015) in which it was concluded that construction professionals possessed different types of skill which is important for work execution. This means that construction professionals have the opportunity to use different skills to execute their work. A contrast finding was reported by Mukul *et al*. (2013) in which workers reported absence of skill varieties in their task. The difference may be due to the different industry in which the study took place. Every structure constructed in construction industry is unique and not the same. Therefore it is of utmost importance that construction professionals exhibit different varieties of skills to execute their task.

Also construction professional execute their task more frequently using their discretion and having substantial freedom and independence. This means that when executing their work, they have the freedom to make decisions on their task (Hackman & Oldham, 1976). A contrasting finding was given by Mukul *et al*. (2013), in which they found out that workers have no freedom in deciding the procedure to be used in carrying out their task. The difference may be due to different industrial sector. Since the construction industry is fragmented and consists of different activities to achieve a task, it is expected that construction professionals make good decision when executing their task. A delay in making decision due to not having autonomy can result in time overrun which may affect the performance of project (Akinsiku & Akinsulire, 2012).

Construction professionals' tasks are difficult, complex and complicated and frequently require habitual method of executing them. These attributes tends more to be on the negative side as difficult, complex and routine task could lead to negative attitude such as absenteeism, turnover and job burnout, but feedback and autonomy can suppress the negative psychological condition of burnout. According to Maslasch *et al.* (2001), lack of feedback and autonomy lead to burnout, since construction professionals have their task characterised by feedback and autonomy, then the negative psychological condition of burnout can be suppressed by these task characteristics. Therefore difficult, complex and routine task of construction professionals are suppressed by feedback and autonomy.

Finally, construction professionals' tasks frequently require the application of limited number of rules and principles to execute them. This is because most construction process has established standard guiding them, therefore construction task is a structured task. Once a construction professionals experience this condition at work, the task will be meaningful and there will be job satisfaction (Hackman & Oldham, 1976).

There is no significant difference in task characteristics among construction professionals except in task difficulty. This is because the level of task difficulty depends on individual professionals; therefore there will be differences among construction professionals. Overall, there is no significant difference in the characteristics of site supervision task among construction professionals except in task difficulty". Therefore, the different professional categorization of individual working as site supervisor does not have effect on site supervisory task they are engaged to execute. The reason may be due to the fact that all profession in the built environment are expose to construction aspect of work in the industry and are also required to have basic construction skills.

This is clearly explained by Farooqui *et al*. (2010) in which they identified desirable attributes and skills for graduating construction student as knowledge of health and safety regulations, interpreting contract documents, listening ability and giving attention to details, knowledge of building codes and regulations and time management. These skills

are required for supervisory tasks on site; therefore the background profession of a site supervisor does not affect his/her task. This means that site supervisory task can be executed by professionals with the following background; Architecture, Building, Quantity Surveying, Civil Engineering and Project Management.

5. CONCLUSION AND RECOMMENDATIONS

The study investigated task characteristics of construction professionals and the differences between task characteristics of construction professionals. The study found out that task characteristic is prevalent in construction professional's site supervisory task and therefore concludes that construction professionals' task of site supervision has the following prevalent attributes; skill variety, task identity, task significance, autonomy, feedback, task analyzability, task difficulty, task routineness, task complexity and task structuredness. The study also concludes that there is no significant difference between task characteristics of construction professionals working as site supervisor, that is, the profession of site supervisors do not affect site supervisory task. The same attributes cut across their task despite their different professional background. Therefore, the task of site supervision can be executed by the construction professionals investigated in this study.

Construction firms should therefore apply the job characteristics theory during work design so as to prevent burnout, absenteeism, turn over and low performance from construction professionals. This will help to increase their job satisfaction rate and subsequently their performance. From the practical perspective, construction firms in Nigeria can enhance the job satisfaction rate and performance of their employee by adopting task characteristics in their work design. The study adds to the body of knowledge by showing that job characteristics theory applies to construction site supervision task despite the temporary nature of the task. Therefore, construction professionals should work in construction firms that allow them to use variety of skills, make decision and use their discretion when executing site supervisory task. They should also work in construction firms that allow them to execute task that are significant to people, environment and the world at large and finally firms that give information and feedback on the task carried out. This will prevent them from experiencing burnout and low performance at work and eventually they will experience meaningfulness at work.

6. LIMITATION OF THE STUDY

The study is limited in that task characteristics instrument were self-rated by site supervisors. Future studies can measure task characteristics from the perspective of site supervisors and their superiors. This will checkmate the responses from the two categories of respondents. In spite of this, relatively little Construction Management research has focused on job characteristics and work design in construction industry. Such studies are important in construction industry because human resource plays an important role in construction process.

REFERENCES

Akinsiku, O. E., and Akinsulire, A. (2012). Stakeholders' perception of the causes and effects of construction delays on project delivery. *Journal of Construction Engineering and Project Management, 2*(4), 25-31.

Ayodele, E. O., and Alabi, A. M. (2011). Abandonment of construction projects in Nigeria: causes and effects. *Journal of Emerging Trends in Economics and Management Sciences*, *2*(2), 142-145.

Chan, D. W. M. and Chan, J. H. L. (2012). Developing a performance measurement index (PMI) for target cost contracts in construction: A Delphi study. *Construction Law Journal*, 28(8), 590-613.

Choudhary, S. (2016). Job enrichment: A tool for employee motivation. *International Journal of Applied Research*, 2(5), 1020-1024.

Cunningham, A. (2016). What are the key drivers used to promote employee motivation and engagement in a manufacturing environment?. Cornell University ILR School. http://digitalcommons.ilr.cornell.edu/student.

Farooqui, R. U., Ahmed, S. M., and Saqib, M. (2010). Desirable attributes and skills for graduating construction management students. In *International Proceeding of the 46th Annual Conference, Wentworth Institute of Technology, Boston, MA* (pp. 1-10).

Faturochman (1997). The job characteristics theory: A review. *Bulletin Psikologi*, V(2), 1-13.

Griffin, R. W., Welsh, A., and Moorhead, G. (1981). Perceived task characteristics and employee performance: A literature review. *Academy of Management Review*, *6*(4), 655-664.

Gu-Ne, K., and Young-Min, L. (2015). Towards High Performance Organization: The Impacts of Job Characteristics and Job Crafting. *International Journal of u-and e-Service, Science and Technology*, *9*(2), 85-100.

Hackman, J. R. and Oldham, G. R. (1976) In Faturocham, (1997). The job characteristics theory: A review. *Buletin Psikologi, Takun*, V(2), 1-13.

Indartono, S. and Chen C. V. (2010). Moderation of gender on the relationship between task characteristics and performance. *International Journal of Organizational Innovation*, 2(2), 195-222.

Iyer, K. C., and Jha, K. N. (2005). Factors affecting cost performance: evidence from Indian construction projects. *International Journal of Project Management, 23*(4), 283-295.

Kim, S. and Soergel, D. (2005). Selecting and measuring task characteristics as independent variables. Proceedings of the American Society for Information Science and Technology, 42(1), 1-16.

Ling, F. Y. Y., and Loo, C. M. (2013). Characteristics of jobs and jobholders that affect job satisfaction and work performance of project managers. *Journal of Management in Engineering*, *31*(3), 04014039-1 -04014039-10.

Maslach, C., Schaufeli, W. B., and Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, *52*(1), 397-422.

Mukul, A. Z., Rayhan, S. J., Hoque, F., and Islam, F. (2013). Job characteristics model of Hackman and Oldham in garment sector in Bangladesh: a case study at Savar area in Dhaka district. *International Journal of Economics, Finance and Management Sciences*, *1*, 188-195.

Mustapha, F. H. and Naoum, S. (1998). Factors influencing the effectiveness of construction site managers. *International Journal of Project Management*, 16, 1-8.

Oladiran, O. O. (2015, August). The scope of construction professionals' skills. Proceedings of the 45th Builders Conference. 3rd-7th August, University of Ibadan, Oyo.

Onukwube, H. N. and Iyagba R. (2011). Construction professionals job performance and characteristics: A comparison of indigenous and expatriate construction companies in Nigeria. *Australasian Journal of Construction Economics and Building*, 11(2), 71-83.

Park, S. (2017). Motivating raters through work design: Applying the job characteristics model to the performance appraisal context. *Cogent Psychology*, 4, 1-13.

Shih, J. C. and Chang, S. C. (2013). Task characteristics and personal success in innovative project. *Journal of Advanced Management*, 1(1), 6-10.

Suleiman, W. (2013). A Study of causes of poor attitude to work among workers of both public and private sectors organizations in Bauchi State-Nigeria. *International journal of academic research in business and social sciences*, 3(7), 143-152.

Yang, L. (2015). Role of task characteristics in the relationship between technological innovation and project success. *International Journal of Innovation, Management and Technology*, 6(2), 100-104.

APPENDIX

Appendix

S/N	Task characteristics
	Skill Variety
1	My tasks involves the use of variety of skill to execute them
2	I have a variety of tasks to perform
	Task Identity
3	There is a role clarity in the tasks I do
4	My task are complete from the start to finish
5	My contribution to the task can be seen in the final result
	Task Significance
6	My tasks have impact on the project
7	The degree of responsibilities I am given in my tasks is high
8	The results of my tasks have significant effect on other people lives and well being
	Autonomy
9	I have an amount of authority to order others to execute work
10	I have an amount of control to execute my tasks
11	My tasks gives me the chance to use my personal initiative or judgment in carrying out the task
	Feedback
12	There is availability of information to carry out my tasks
13	My supervisor frequently discusses matters related to my job performance
14	I receive recognition for a task completed well
	Task Analyzability
15	My tasks involve a clearly defined sequence of steps
16	My tasks involve a clearly established procedures
	Task Difficulty
17	My tasks require great physical effort to accomplish it
18	My tasks require great mental effort to comprehend

APPENDIX *Continued…*

S/N	**Task characteristics**
	Task Routineness
19	My tasks involve a habitual method of carrying it out
20	My tasks involve an unvarying procedure of carrying it out
	Task Complexity
21	The nature of my task is complex in structure
22	The task is complicated in structure
	Task Structuredness
23	My tasks involve the application of a limited number of rules and principles with well-defined parameter for convergent
24	My tasks possess multiple solutions