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CRITICAL MOTIVATIONAL FACTORS FOR ENHANCING EMPLOYEE PERFORMANCE IN CONSTRUCTION FIRMS BASED ON CORRELATION AND PRINCIPAL COMPONENT ANALYSES

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ABSTRACT
Over the years, construction firms have often hinged their success on the effective motivation of their employees so as to ensure productivity and improved performance. Previous studies noted that various factors affect the motivational level of employees with regards to work performance. However, due to the difference in employee needs, not all motivational factors have influence on employees' performance. This study sets out to assess the influence of motivational factors on the performance of employees in construction firms. The study aim was achieved through the identification and assessment of critical motivational factors (intrinsic and extrinsic) in the Nigerian construction firms. Perceptual data was collected from employees of selected construction firms using a structured questionnaire. Data collected was analyzed using descriptive and inferential statistics. Motivational factors were ranked based on respective mean scores from the most to the least influential. Extrinsic motivational factors such as promotion when due, availability of resources and provision of transportation for employees were found to be the most influential factors on performance. Whereas, constant supervision was found to have the least influence on performance. Findings of the study provides construction firms with empirical data on factors that influence the motivation level of employees with a view to optimizing employee productivity. It is recommended that construction firms should pay close attention to the peculiar needs of respective employees which aids in optimizing organizational performance.

Keywords: Motivation, Employee performance, construction firms, critical factors

1. INTRODUCTION

Globalization and other related factors have largely influenced the dynamics of human resource management in organizations. Güngör [1] observed that organizations in this dynamic globalized world adopt various methods and techniques in developing and maintaining their human resources to enhance overall performance. Overtime, organizations like construction firms often hinge their successes to effective motivation of employees which ensures productivity and improved performance [2].

Certo, *et al.* [3] described motivation as giving people incentives that cause them to act in a desired way. It is the process of arousing and sustaining goal directed behavior amongst a group of people or workers [4]. In an organizational setting, motivation means ways to make subordinate to act in a desired manner in the interest of the organization or employer. Studies in organizational behavior and psychology have developed a variety of theories and approaches to human motivation with an effort to finding the determinants of motivation and performance in organizations.

The magnitude of an employee's performance that ultimately leads to favorable organizational performance is a key indicator of organizational success that should be given greater emphasis as it measures the competitive power of an organization [5, 6]. Previous researches showed that employee motivation was one of the key factors which

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influences employee productivity and ultimately organizational performance [7-9]. Robbins, *et al.* [10] opined that employees' motivation at the work place appears through their willingness to effectively use their knowledge and skills to achieve the desired organizational objectives in relation to their satisfaction and needs. As the performance of employees is comprised of both motivation and capability, identification of favourable motivational factors by employers is critical in improving the capabilities of their workforce [11].

Zameer *et al.* [9] as well as a vast number of studies reported that there are several key elements which can enhance the commitment of employees towards an organization. These factors include salaries and wages, job security, promotion, bonus amongst others. Ivanivich, *et al* [12] noted that committed employee tend to receive motivation at the workplace and be rewarded for good achievements.

These studies ascertain that human beings have certain needs and desire while they continually strive to perform. More so, positively motivated individuals tend to perform better at work. However, the ability of organizations to identify distinct employee's needs and desires has been a major area of concern. Organizations find it difficult to employ the right motivational techniques due to the diversity of employee wants. Therefore, this study was focused or aimed at assessing the influence of various motivational factors in construction firms with a view to enhancing employees' performance. The study aim was achieved through the identification and assessment of critical motivational factors (intrinsic and extrinsic) in the Nigerian construction firms.

1.1 Motivation

The term "motivation" originated from the Latin word "*movere*" which means "to move" [13]. It builds on the word "motivation" that is an emotion or willingness to stimulate action in easy terms. In most cases, motivation has heavily relied on the derive and willingness to perform or act. Although motivation is majorly based on consciousness derived from within an individual, [14] noted that sometimes it can be externally induced. According to [15], motivation is the drive that forces or instigates employees to make a decision or action. Employees can either be positively motivated or negatively motivated depending on the circumstances. As such, various factors can largely influence the motivation level of employees in an organization. According to [16], these factors can be broadly categorized into two; "*Extrinsic factors*" and "*Intrinsic factors*".

Extrinsic factors emanate from tangible rewards that are external and partly beyond the control of the person or individual receiving them such as pay, retirement benefits, healthcare plan. Whereas intrinsic factors refer to motivation that emerges from within a person which include feelings of self-esteem, accomplishment, recognition amongst others. Most organizations employ one or more motivational techniques to elicit role compliance and goal directed behaviors from their employees. These motivational techniques are usually intended to maximize benefits to the organization, but their relative utility varies considerably amongst employees. No one works for free, nor should they. Employees want to earn reasonable salary/payment and employees desire their employers to feel that is what they are getting. Whereas, Intrinsic motive is an individual's willingness to do his / her job well to satisfy inherent requirements. In other words, a person conducts a job to attain certain kinds of inner states that experiences as an intrinsic motivation related to psychological rewards such as recognizing a finished task. External benefits like food, money, praise, and so on, are not the main reason for a person to engage in activities [17]. The job itself can satisfy intrinsic motives. The job is the primary source of motivation as it offers the person with interest, stimulation, difficulties, and possibilities for personal growth and accomplishment. Intrinsically driven conduct is the one determined by the need to feel skilled and self-determined by an individual. On the one hand, an individual will seek out challenges that allow him/her to behave in ways that provide him/her with a sense of competence and self-determination [18]. Most individuals are working to earn a living, but also because of other work-related satisfactions, such as doing meaningful things.

Extrinsic motives cannot only be satisfied by the work itself; it requires a reward system where the value in work is seen in a reward for that work. That means pleasure comes from something the task leads to, such as money. According to [19] the effects of work, as well as its contributing factors are also of importance for the need satisfaction. As a result, work is seen as a means to pursue other motives. Such extrinsic motives include monetary compensation/salaries, job enrichment, working environment and nature of work. All these and more

can have significant effects on employees' motivation.

2. METHODOLOGY

A quantitative research approach was adopted for the study. The quantitative approach employs the use of mathematical and statistical techniques to identify facts and causal relationship between variables. Quantitative research investigates the "what, where and when" of decision making, and also, the results are often presented in models, tables and graphs [20]. Eleven small scale construction firms across three major cities in Northern Nigeria (Kaduna, Kano and Abuja) were selected to serve as the study population. These firms were selected based on a pilot survey which consisted of 10 firms from each city. The criteria for selection was number of employees less than 100 at the time of the survey. Perceptual data on the influence of distinct motivational factor on individual performance was randomly collected using a structured questionnaire. A letter of introduction was sent to the desk officers of each firm with regards to the study, as well as requesting permission to have access to the firm's data. All eleven firms responded positively, and a total of five hundred and six (506) employees where identified from the firms as the research sample frame. The number was further sampled to two hundred and twenty-three (223) using the [21] formula for sample size at 95% confidence level.

$$n = \frac{N}{1+N(e)2} = \frac{506}{1+506(0.05)2} = 223$$

where; n = Sample Size, N = Study population and e = Level of precession

Data collected was analyzed using descriptive statistics. The reliability of the data was analyzed using the internal consistency method by calculating the Cronbach's Alpha which is the most popular test for internal consistency [22].

3. RESULTS AND DISCUSSION

3.1 Response Rate and Reliability

A total of 223 questionnaires were distributed to employees in respective construction firms. All but four (4) were successfully retrieved which represents 98.2% response rate as shown in figure 1. According to [23], reliability indicates dependability, stability, predictability, consistency and refers to the extent to which a measuring procedure yields the same results in repeated trials. The reliability of data in this study was found be above the 0.70 threshold as presented in Table 1, as such reliable.

3.2 Demography of respondents

Studies have shown that the demography of respondents have a significant influence on the findings of studies of employees' motivation [5]. This is largely due to the distinct nature and wants of each employee. As such, it is important to address the demography of this study's respondents with a view to put the findings of the study into clear perspective. Due to their distinct peculiarities, motivational factors tend to differ between gender. Figure 1 shows the respondents gender distribution. A large percentage of the respondents were male representing 87.2% while only 12.8% of the respondents were female. This is majorly due to the fact that the construction industry is largely dominated by men.

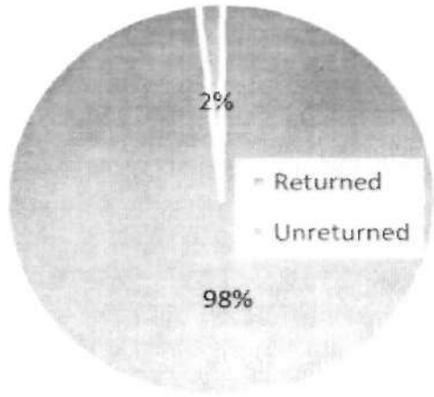


Fig 1: Response Rate

Table 1: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.769	0.73	20

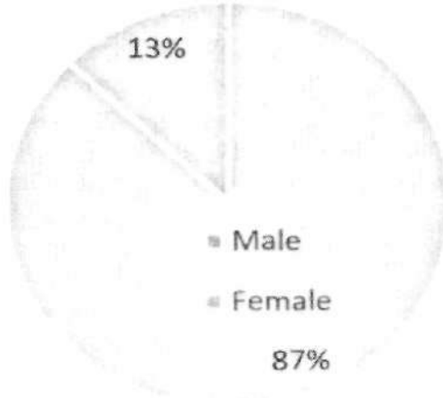


Fig 2: Gender Status

More so, the years of experience of an employee influences the motivational drives of that employee, as well as the overall motivational level. Veteran employees tend to be more driven by intrinsic factors as opposed to extrinsic factors. Figure 3 shows the work experience of the respondents with 54 respondents (representing 24.7%) having their work experience between 1-10 years, 78 (representing 35.6%) spent 11-20 years in the industry, 67 (representing 30.6%) having 21-30 years of experience in the industry while 20 (representing 9.1%) have 31-40 years and above of experience in the industry.

3.3 Influence of Motivational Factors on Employee's Performance

Both intrinsic and extrinsic employee motivational factors were identified from literature and presented to the respondents on a Likert scale of 1-5 (where 1= No influence and 5= Highly influential). The respondents were required to rate their perceived influence level of each identified factor on their respective work performance. Table 4,5 and 6 shows the ranking of the factors based on respective mean scores as perceived by the employees.

Extrinsic motivational factors which include "promotion when due", availability of resources and provision of transportation ranked as the most influential factors on employees' performance with mean scores of 4.3 respectively. This is in line with the findings of Thomas and Velthouse [23], that employees take promotion as the ultimate achievement in their career and when it is realized, the employee feels extremely satisfied. Provision of accommodation by the firm to the employees was ranked 4th with a mean score of 4.2 as perceived by the respondents. As shelter is one of the most pressing human needs, employees feel more motivated to concentrate on their respective work when they know that the need is satisfied [24]. Other extrinsic factors such as renumeration, provision of safety gears and free medical treatment were also ranked amongst the top influential factors with mean scores of 4.1 respectively. Good working environment ranked 8th with a mean score of 3.9. Bonus scheme, provision of recreational facilities as well as working condition were found to have a relative influence on employee's performance having ranked 9th, 10th and 11th respectively. Whereas, employee training, insurance and constant supervision with respective mean scores of 3.8, 3.7 and 3.6 were ranked to have the least influence on employee performance in construction firms.

Job security as well as recognition of work effort(s) at the work place were perceived to be the most influential intrinsic motivational factors with respective mean scores of 4.1. A sense of belonging which stems from the employer's ability to engage the employee with a degree of trust and autonomy ranked 3rd with a mean value of 4.0. However, factors which include opportunity for skill development, challenging work and freedom in work place with respective mean scores of 3.9, 3.7 and 3.6 were perceived to have the least influence on employees in construction firms. Furthermore, taking a broader look at the influence of motivational factors on employees, Table 6 presents a ranking of both intrinsic and extrinsic motivational factors.

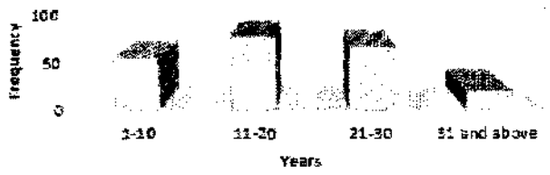


Fig 3: Years of Experience

Table 2: Influence of Extrinsic motivational factors on employee performance

SN	Items	Mean	Std. Dv
1	Promotion when due	4.3	0.675
2	Availability of work tools/equipment	4.3	0.949
3	Transportation	4.3	1.252
4	Residential Accommodation	4.2	0.919
5	Renumeration/salary	4.1	0.738
6	Provision of safety gears	4.1	0.876
7	Free Medical Treatment	4.1	1.197
8	Good Working Environment	3.9	0.738
9	Bonus Scheme	3.8	0.632
10	Provision of Recreation and Relaxation Facilities	3.8	0.789
11	Working condition	3.8	0.919
12	Employees Training	3.8	1.229
13	Subsidized group/Personal Insurance	3.7	0.675
14	Constant Supervision	3.6	0.966

Table 3: Influence of Intrinsic motivational factors on employee performance

SN	Items	Mean	Std. Dv
1	Job Security	4.1	0.994
2	Award/Recognition	4.1	1.101
3	Sense of belonging	4.0	0.471
4	Opportunity for skill Development.	3.9	0.994
5	Challenging Work	3.7	0.823
6	Freedom in Work Place	3.6	0.516

Extrinsic factors that include promotion when due, availability of resources and provision of transportation were ranked the highest with an average mean score of 4.3. Whereas, intrinsic factors that include job security and sense of belonging were the only factors ranked in the top ten (10) influential motivational factors with mean scores of 4.1 and 4.0 respectively. Opportunity for skill development ranked 13th with a mean score of 3.9. Whereas, challenging work and freedom in work place as intrinsic factors ranked amongst the least influential motivational factors on employee performance with mean scores of 3.7 and 3.6 respectively.

Despite some of the factors having relatively low mean scores compared to others, (as presented in Table 6, with factors ranked 11th to 20th having mean scores lower than 4.0), it is imperative to note that all factors have mean scores above the mid-scale point of 2.5. This translates to all factors having relative influence on employee motivation in Nigerian construction firms. The joint least ranked factors which include freedom in work place and constant supervision both had mean scores of 3.6 which is farfetched from the mid-scale point.

To further ascertain the critical motivational factors on employee productivity in construction firms, a Principal Component Analysis (PCA) was carried out using SPSS® as done in similar studies [25]. The factors as shown in Table 5 were classified into two (2) fixed major components using the Verimax rotation method with Kaiser Normalization; rotation converged in 3 iterations. Result of the PCA shows that the extracted components can explain a cumulative 71.6% of the cases of employee motivation in construction firms. Table 6 shows the rotated component matrix for the two (2) components.

The first component was majorly influenced by extrinsic motivational factors. These factors include salary/renumeration, availability of tools/equipment, accommodation, provision of safety gears, transportation and job security. This component explains 44.4% of the variance on the effect of employee motivation on productivity in construction firms. Monetary benefits play very important role in motivation and performance [26]. In [27] it was stated that monetary rewards create a positive environment and develop job interest which results in increased employee performance.

Table 4: Influence Level of Motivational Factors on Employee Performance (Overall)

SN	Items	Mean	Std. Dv
ME1	Promotion when due	4.3	0.675
ME2	Availability of work tools/equipment	4.3	0.949
ME3	Transportation	4.3	1.252
ME4	Residential Accommodation	4.2	0.919
ME5	Renumeration/salary	4.1	0.738
ME6	Provision of safety gears	4.1	0.876
MI1	Job Security	4.1	0.994
MI2	Award/Recognition	4.1	1.101
ME7	Free Medical Treatment	4.1	1.197
MI3	Sense of belonging	4.0	0.471
ME8	Good Working Environment	3.9	0.738
MI4	Opportunity for skill Development.	3.9	0.994
ME9	Bonus Scheme	3.8	0.632
ME10	Provision of Recreation and Relaxation Facilities	3.8	0.789
ME11	Working Condition	3.8	0.919
ME12	Employees Training	3.8	1.229
ME13	Subsidized group/Personal Insurance	3.7	0.675
MI5	Challenging Work	3.7	0.823
MI6	Freedom in Work Place	3.6	0.516
ME14	Constant Supervision	3.6	0.966

Table 5: Principal Component Analysis

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	8.883	44.417	44.417
2	5.436	27.178	71.596
3	3.298	16.49	88.085
4	0.922	4.609	92.695
5	0.56	2.799	95.494
6	0.394	1.971	97.465
7	0.277	1.387	98.852
8	0.198	0.99	99.842
9	0.032	0.158	100
10	8.93E-16	4.46E-15	100
11	6.37E-16	3.18E-15	100
12	3.66E-16	1.83E-15	100
13	2.66E-16	1.33E-15	100
14	1.61E-16	8.03E-16	100
15	3.91E-17	1.96E-16	100
16	-1.73E-16	-8.67E-16	100
17	-3.47E-16	-1.73E-15	100
18	-4.99E-16	-2.49E-15	100
19	-7.00E-16	-3.50E-15	100
20	-1.01E-15	-5.07E-15	100

Table 6: Rotated Component Matrix

	Component	
	1	**2**
ME5	**0.955**	-0.13
ME2	**0.954**	0.195
ME4	**0.925**	-0.266
ME3	**0.898**	0.222
ME6	**0.882**	-0.376
MI3	-0.864	0.036
MI1	**0.854**	-0.335
MI2	0.683	-0.461
ME1	0.626	0.467
MI5	0.586	0.583
ME11	-0.502	0.374
ME10	-0.491	0.045
MI4	0.094	**0.84**
ME14	0.36	**0.833**
MI6	-0.506	**0.817**
ME13	-0.428	**0.817**
ME7	0.355	-0.809
ME8	-0.214	**0.756**
ME9	0.241	0.699
ME12	-0.229	0.482

The second component which explains 27.2% of the variance in employee motivation was influenced by both intrinsic and extrinsic factors. The intrinsic factors include opportunity for skill development and freedom in workplace. Whereas, the extrinsic factors are constant supervision, subsidized insurance and good working environment. This could be seen in line with the findings of [28] that motivated employees find the meaning, importance and purpose of their work in view of personal and social development.

4. CONCLUSION

This study set out to assess the influence level of distinct motivational factors on employee performance in construction firms. Findings of the study shows that extinctic motivational factors have more influence on employee performance than intrinsic factors. Promotion when due ranked as the most perceived influential motivational factors while constant supervision ranked the least. Job security, award/recognition as well as a sense of belonging were perceived to be the most intrinsic motivational factors. More so, it can be inferred from the PCA result that a decent reward for labour (salary/renumeration), coupled with the right tools/ equipment significantly motivates employees and has a positive effect on their respective performance. This shows that although intrinsic factors do lead to increase in motivational level, they have little or no influence on employee performance. Regardless, it is important to note that this finding is limited by the nature of factors identified in the study, as most of them are extrinsic factors. Furthermore, as stated earlier, demographic factors have significant effect on influence of various motivational factors on employee's performance. Although the years of experience of the respondents is relatively proportionate, the study respondents were largely dominated by men, this demographic representation should be rightly noted to put the findings in better perspective. It is recommended that construction firms should pay attention to the peculiarities of their employees in the adoption of motivational techniques with a view to optimizing organizational performance.

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