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Adoption of Non-Financial Motivational Strategies for Enhancing Productivity on Construction Sites in Edo State, Nigeria

Tolulope S. FAWALE[1*], Monday O. IMAFIDON[2], Chukwuemeka P. OGBU[3]

[1*,2,3]Department of Quantity Surveying, University of Benin, Benin City, Nigeria

[1*]tolulope.fawale@uniben.edu, [2]monday.imafidon@uniben.edu, [3]chukwuemeka.ogbu@uniben.edu

Abstract

Workers in the construction industry are more likely to be productive when they are well motivated. While many construction sites in Edo State have adopted financial motivators to enhance worker productivity, as suggested in the literature, the use of non-financial motivators remains limited. This study aims to examine the influence of non-financial motivators on construction workers' productivity, with the goal of mitigating project delays in Edo State. The research objectives are to assess the non-financial motivators most frequently adopted, investigate the factors driving their adoption, and determine the relationship between the use of non-financial motivators and the productivity of construction workers in Edo State. Two categories of construction participants—professionals and artisans—were selected, totalling 160 respondents. These groups were chosen because they constitute the majority of personnel involved in construction site operations. The study employed a random sampling technique to select respondents within the construction industry. Two sets of questionnaires were administered: one to construction participants and another to their supervisors. Data analysis was conducted using percentages, mean item scores, and Spearman rank correlation. The results indicate that participation in decision-making, recreational activities, and effective supervision are the most commonly adopted non-financial motivators in the construction industry. Factors necessitating the adoption of these motivators include the desire to improve workers' lifestyles, the surrounding culture, and worker retention. A strong positive correlation was found between feeding and vacation benefits and average man-hours worked (P4), with correlation coefficients of 0.530 and 0.529, respectively. This study demonstrates the significant impact that the adoption of non-financial motivators by firms has on the productivity of construction site participants. Therefore, firms and clients should incorporate more non-financial motivators into their motivational strategies to enhance worker productivity.

Keywords: *Construction industry, construction worker, motivation, non-financial motivators, professionals.*

1.0 Introduction

The construction sector, as one of the largest employers of labor, significantly contributes to the socio-economic development and gross domestic product (GDP) of developing nations such as Nigeria [3]. However, the labor force in this industry accounts for up to 40% of the total construction cost [36]. This substantial labor contribution is crucial to the success of construction projects, and failure to manage these resources effectively can result in high turnover rates and decreased worker productivity [9].

Despite the critical role played by the construction workforce, particularly site workers, in project execution and delivery, the industry continues to face persistent challenges such as project delays, cost overruns, low labor productivity, poor workmanship, high labor turnover, and conflicts among construction participants [3, 34, 39, 68]. These issues have contributed to the deterioration of the nation's economy [39]. Enhancing labor motivation is one effective strategy to address these problems [3; 57]. According to Prabhu and Ambika [51], the British economy could gain approximately one billion pounds annually from a 10% increase in labor productivity within the construction sector if workers are properly motivated.

Traditional approaches have primarily emphasized financial incentives such as pay raises, bonuses, and allowances to motivate workers; however, these measures alone have proven insufficient for sustaining productivity in the construction industry [68]. Construction workers often endure harsh site conditions, receive minimal recognition, and have limited opportunities for personal and professional growth. These factors directly impact their attitude, morale, and overall performance [34]. While most managers and economists consider financial incentives to be significant motivators, behavioural scientists tend to downplay their importance. Jeffrey [30], conducted a notable study on the use of non-monetary motivators, highlighting the benefits of tangible non-financial rewards. The study suggested that non-financial motivators could be a more cost-effective means of achieving employee motivation than offering cash rewards with higher market value.

According to Ameh and Shokumbi [10], non-monetary motivators provide pleasant memories that boost construction workers' morale and cultivate a more positive attitude toward the business. Given the large scale of the construction industry, its significance to the Gross Domestic Product, and the number of people it employs, there is a need to identify ways to improve worker productivity in this sector. Therefore, this

research assesses the commonly adopted non-financial motivators, investigates the factors necessitating their adoption, and determines the relationship between the use of non-financial motivators and the productivity of construction workers in project delivery in Edo State.

2.0 Materials and Methods/Methodology

Motivation is a key aspect of human resource management, responsible for sustaining passion, as well as mental and physical strength in employees. Wan [70], defined motivation as the internal and external drive that enhances an employee's energy and desire to remain committed to their tasks and achieve set goals and objectives. This process not only improves individual performance but also fosters a positive work environment and collective success. By effectively implementing motivational strategies, organizations can boost overall productivity and employee satisfaction. Motivation is crucial for improving workers' productivity and fulfilling organizational goals. It is the responsibility of managers to ensure their employees remain motivated so that work progresses at the desired rate, pace, and timeline. Achieving this requires a deep understanding of what drives each employee, as motivation varies significantly from person to person. By recognizing individual strengths and providing tailored support, managers can cultivate a culture of continuous improvement and engagement within their teams. This approach not only enhances overall performance but also fosters a sense of belonging and loyalty among employees. Ultimately, when workers feel valued and understood, they are more likely to contribute their best efforts toward achieving the company's objectives. Therefore, to effectively improve the health, mental well-being, and overall productivity of workers, managers should implement motivational strategies [71].

2.1 Motivation Theories

Several motivational theories have been developed to explain motivation and its impact on employees. This study focuses on early motivation theories because they form the foundation of modern motivational theories and because many practicing managers still apply them.

2.1.1 Maslow's Hierarchy of Needs Theory

Maslow's theory of the hierarchy of needs explains that humans are never fully satisfied with their current situation and continually seek to acquire more—both tangible and intangible—based on their possessions and circumstances. Maslow identified five needs and arranged them in a hierarchical order [44]. Understanding these needs can help tailor motivational strategies more effectively [63]. According to Maslow, the most basic human needs are physiological. Individuals will do whatever it takes to satisfy these needs before seeking to fulfill safety needs, progressing ultimately to self-actualization. However, Maslow noted that one level of needs does not have to be completely fulfilled before a person moves on to the next level [62]. It is possible for an individual to be partially satisfied at one level while still pursuing satisfaction at the next [56]. For example, humans are unlikely to be motivated by esteem needs if their physiological needs such as food, clothing, and shelter remain unmet.

2.1.2 Herzberg's Two-Factor Theory

Herzberg's theory, also known as the two-factor theory, proposes that two distinct factors influence people's attitudes: hygiene factors and motivators. Motivator factors enhance individuals' value, skills, and potential. These include work achievement, job status, promotion, growth, recognition, the nature of the work, and opportunities for advancement. In contrast, hygiene factors primarily affect job dissatisfaction in the workplace [72]. Therefore, motivators increase workers' satisfaction but do not reduce dissatisfaction when absent [8]. A study in the Indian IT industry found that while motivation and hygiene factors generally aligned with Herzberg's theory, some factors, such as advancement and company policies, exhibited mixed effects [15]. In Pakistan, research on university non-academic staff revealed that intrinsic motivational factors had a significant relationship with job satisfaction, whereas hygiene factors did not [1]. These findings suggest that cultural differences may influence the application of Herzberg's theory in various contexts, particularly in Asian countries [72].

2.1.3 Vroom's Expectancy Theory

Vroom's expectancy theory is a prominent process theory of motivation, effort, and productivity that explains how individuals make decisions based on behavioural alternatives [11]. The theory posits that to improve productivity, motivation strategies should be implemented to serve as expected outcomes for workers. It comprises three key components: expectancy, instrumentality, and valence. This theory has been applied in various contexts, including healthcare [60] and academics [16], however, there is a paucity of research on its application within the Nigerian construction industry. According to Vroom's expectancy theory, individuals must believe that the effort they exert will lead to the desired outcome once they are

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properly motivated. The theory has important implications for motivating individuals in small-scale industries by influencing performance expectancy, reward expectancy, and reward valence [14].

2.2 Empirical Studies on Non-Financial Motivators

These studies emphasize the importance of non-financial motivators, such as recognition, career development opportunities, and work-life balance, in enhancing employee satisfaction and productivity. By prioritizing these factors, organizations within the Nigerian construction industry can potentially improve workforce engagement and retention rates. Many studies have examined financial motivation; however, few have focused on non-financial motivators within the construction industry. Previous research by [4, 10, 31, 35, 38, 49, 54, 55], has explored non-financial motivators. While studies by [10, 38, 49, 54], identified non-financial motivators applicable to the construction industry, there remains a lack of information regarding their impact and relationship with workers' productivity. Further research is needed to clarify the connection between non-financial motivators and workers' productivity. Other studies, such as [71], examined the impact of financial and non-financial motivators on employee performance in the banking sector, while [74] research focused on improving community health outcomes through community meetings, serving refreshments, visitation, and mentoring. Rajgarhia [53], study explored the relationship between monetary and non-monetary motivators and job satisfaction in the workplace. However, this study concentrated solely on job satisfaction and did not address the relationship between non-financial motivators and workers' productivity. Additionally, these studies are not directly applicable to the construction industry. Therefore, it is necessary to conduct further research on non-financial motivators within the construction sector. Such research could provide valuable insights into how factors like recognition, professional development, and a positive work environment contribute to overall productivity and employee well-being. Understanding these dynamics is crucial for fostering a motivated workforce in an industry that often experiences high turnover rates and job dissatisfaction. Table 1 presents twenty-three (30) non-financial motivators identified from studies.

Table 1: Non-financial motivators

S/N	Non-Financial Motivators	Authors
1	Award and Recognition	[3, 33, 40, 48]
2	Flexible Work methods/Freedom	[3, 33, 46, 48, 54]
3	Health and safety services	[40, 54]
4	Transportation facilities	[46, 54]
5	Good relationship with mates	[3, 40]
6	Opportunity for challenging job	[40, 46]
7	Insurance	[46, 50, 54]
8	Recreational activities	[40, 54]
9	Regular Feedback and Communication	[3, 46, 48, 54]
10	Competition	[46, 50, 54]
11	Employee Engagement Activities	[23, 40, 46, 50, 54]
12	Employee Empowerment	[50, 54]
13	Job security	[27, 32]
14	Counseling	[8]
15	Provision of safety equipment	[54]
16	Opportunity to observe national holidays	[13]
17	love and belongingness	[3 23, 40, 46, 50, 54]
18	Feeding	[37, 59]
19	Training and Development	[54, 50]
20	Residential Accommodation	[67]
21	Promotion when due	[27]
22	Provision of Work Tools/Equipment	[8]
23	Improved Work Conditions	[48]
24	Good Supervision	[43]
25	Vacations	[37, 59]
26	Materials things as gifts	[12, 22]
27	Personal attention that communicates interest	[61]
28	Approval and Appreciation	[26]
29	Feedback	[21]
30	Participation in Decision making	[23, 46, 50,54]

Source: Authors' compilation

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2.3 Factors Necessitating Adoption of Non-financial Motivators

Various reasons and circumstances drive the implementation of non-financial motivators to enhance workers' productivity. One significant factor is the money-centred mindset of individuals, which is reflected in their lifestyle and culture [7]. In Nigeria, money holds considerable value in people's lives. A person's worth is often judged by their bank balance and the extravagance of their spending. It is widely ingrained in the minds of youths that money is the primary motivation for living. This money-centred mindset limits many contractors and construction firms from adopting non-financial incentives, as they perceive money as the sole means to improve productivity [65]. Additionally, contractors and managers often lack knowledge about the benefits and applications of non-financial motivators. Financial incentives are generally believed to have the most significant impact on productivity improvement [42]. This belief is prevalent among many managers because Nigeria is a developing country where many workers still live in poverty [5]. To promote the use of non-financial motivators in developing countries, contractors and professionals should be educated about their potential and the best practices for effective implementation.

Another important factor is the level of needs of the worker. According to Maslow's hierarchy of needs theory, a person is motivated based on their specific level of needs [62]. Since many Nigerian construction workers still lack basic physiological needs, they are primarily motivated by non-financial incentives designed to address these needs [29]. Therefore, selecting the appropriate motivator largely depends on the workers' level of needs. Examples of non-financial motivators that fulfil physiological needs include providing accommodation and meals. Other factors influencing the choice between financial and non-financial motivators include the available budget, company size, project progress, deadlines, workers' mental health, and management's concern for employees [7, 10, 42, 65]. It was also noted that previous studies on non-financial motivators in the Nigerian construction industry did not identify the factors driving the adoption of such motivators for construction workers in Edo State, highlighting the need for this study. Table 2 presents the factors necessitating the adoption of non-financial motivators, as identified by various studies. Tight deadlines compel managers and professionals to implement effective motivational strategies to improve employee productivity.

Table 2: Factor necessitating adoption

S/N	Factor Necessitating Adoption	Authors
1	Desire to improve workers lifestyle	[42, 66]
2	Surrounding culture	[7]
3	Potential to prevent dispute	[7]
4	Workers retention/loyalty	[10]
5	Need for more motivation beyond financial motivators	[66]
6	Available budget	[10, 42]
7	Money mindset of workers	[42]
8	Work progress	[7]
9	Need to retain pleasure while working	[66]
10	Project limited deadlines	[66]
11	For research purposes	[10]
12	Adaptation to changing needs	[10, 65]
13	Improved working conditions	[10]
14	Management love for workers	[7]
15	Need to contrast and measure the effectiveness of non-financial motivators	[7]
16	Mental health of workers	[65]
17	Size of company	[42]
18	Growth of workers (More workers will be attracted)	[7]
19	Ignorance of the knowledge and benefits of non-financial motivators	[42, 65]
20	Levels of needs of workers	[7]

Source: Authors' compilation

2.4 Worker Productivity in the Construction Industry

Productivity measures a worker's performance. It is defined as the ratio of a specific output measure to a specific input measure per unit of labour and is calculated by dividing total output by the number of labor

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units employed to produce that output. As individual workers acquire more human capital, their productivity and income increase. Uwakweh [69], asserts that productivity is closely related to workers' motivation, and that worker motivation is directly linked to construction productivity. He argues that construction workers can be made more productive by adopting an effective motivation system. Hunjra and Rehman [25], note that the productivity of construction workers is measured as the ratio of an employee's actual performance to their expected performance. Consequently, construction workers' productivity can be defined as construction input (resources, effort, time) divided by construction output (completed tasks), or vice versa. A study by PWC [52], identifies three measures of productivity: labour, capital, and multifactor productivity. Labour productivity is defined as the total construction output relative to labour input. Capital productivity refers to the efficiency with which money is used to provide goods and services, while multifactor productivity represents the output derived from the combined inputs of labour and capital. Table 3 presents the productivity variables of workers as identified by various authors. It was observed that workers' output, man-hours, quality of work, presenteeism, and work completion rate are crucial to their performance [2, 28, 45, 58]. These authors agree with this assessment and further suggest that continuous motivation of workers can enhance productivity.

Table 3: Performance Evaluation Variables

S/N	Workers' productivity	Authors
1	Workers output	[45, 58, 60]
2	Presenteeism	[2, 28]
3	Quality of work	[45, 58]
4	Average Man-hours spent	[45, 58]
5	Work completion rate	[2, 28, 58]

Source: authors' compilation

2.5 The Relationship between Motivation and Worker Productivity

Musa [46], in his study, examined the relationship between motivation and workers' productivity. The study concluded that motivating factors—such as the provision of quality healthcare services, recognition by authorities, and favourable working conditions—significantly influence the productivity of construction workers in Bauchi metropolis. Similarly, Akinmusuru, et al. [6] investigated factors affecting workers' motivation and productivity in the Nigerian construction industry. Their research identified several challenges, including a lack of job security and poor working conditions, which negatively impacted workers' motivation and led to decreased productivity. Another study by Elinwa et al. [18] explored the impact of motivation on workers' productivity in the Nigerian construction sector. The findings revealed that a lack of recognition and rewards for exceptional performance, limited career growth opportunities, and inadequate training and skill development programs were major obstacles to motivating construction workers. These factors contributed to low productivity levels within the industry. The study further emphasized the need to implement effective motivation strategies, such as performance-based incentives and training programs, to enhance workers' productivity. Consistent with these findings, Aiyetan, and Olotuah, [3] concluded that motivation leads to increased productivity. Additionally, Fagbenle et al. [20] examined non-financial incentive schemes and found that their implementation could improve productivity. In light of the above, motivation has a significant impact on construction workers' productivity, underscoring the need for managers to adopt practical motivation strategies.

2.6 Research Methods

This paper aims to empirically examine the influence of non-financial motivators on construction workers' productivity to mitigate project delays in Edo State. Edo State was strategically chosen for this study due to the surge in construction activities and the diverse workforce driven by both government and private investors, which aligns with the objective of investigating non-financial motivators and construction workers' productivity. A total of twenty (20) active construction sites were randomly selected, and workers at each site were surveyed. The population consists of two groups of respondents. The first group included sixty-two (62) artisans (skilled laborers) selected from four (4) different trades as follows: masons (bricklayers and concreters)), carpenters, steel benders and fixers, and service workers (plumbers and electricians). These workers were chosen because they constitute the majority of participants in construction site operations and are commonly engaged by all categories of clients [19]. Thus, their productivity can be directly measured against planned tasks, making them well-positioned to provide relevant information for the study. The second group of respondents comprised forty-three (43) construction professionals in Edo State, randomly selected based on their active participation at the construction sites. Two sets of well-structured questionnaires were designed for the study. The first set was administered to the artisans using common broken English for ease of understanding, while the construction professionals responded to the second set. Of the 160 questionnaires

distributed, 105 were completed and returned, yielding a 66% response rate. This response rate is comparable to those reported in previous studies [17, 24, 73]. However, five (5) questionnaires were incomplete and excluded from the analysis. A Cronbach's alpha test of reliability conducted on the returned questionnaires showed an acceptable level of reliability, $\alpha = 0.88$, which exceeds the minimum threshold of $\alpha = 0.7$ [41].

2.7 Questionnaire development

Non-financial motivator variables (n=30), factors necessitating the adoption of non-financial motivators (n=20), and workers' productivity variables (n=5) were compiled from existing literature and used to develop the questionnaire. The research employed a questionnaire as the data collection instrument. Two sets of questionnaires were administered. The first set was given to construction participants (skilled workers and professionals) to identify the non-financial motivators provided by their firms. The second set was administered to their supervisors to rate the skilled workers' productivity from their perspective. Each questionnaire consisted of four sections. The first section collected respondents' background and biographical details. The second section aimed to determine the common non-financial motivators adopted by firms in the state. The third section addressed the factors necessitating the adoption of non-financial motivators for construction workers in the state, while the fourth section focused on performance evaluation variables. The questionnaires used a Likert scale from 1 to 5, indicating the level of significance. The frequency of use of non-financial motivators was categorized as always (>80%), often (>60% to ≤80%), average (>40% to ≤60%), sometimes (>20% to ≤40%), and seldom (≤20%). The first set of respondents was asked to select the non-financial motivators frequently used by their firms, rank the factors necessitating the adoption of non-financial motivators, and use performance evaluation variables to rate skilled workers' productivity based on their experience and literature findings.

2.8 Data Analysis

The adoption and factors necessitating non-financial motivators for construction workers were analysed using percentage and mean item scores. Additionally, the relationship between non-financial motivators and the productivity of construction workers was examined using Spearman's rank correlation based on respondents' views. The mean item score for each non-financial motivator was calculated as follows:

$$\text{MIS} = \frac{\sum_{i=1}^{5} A_i F(A_i)}{N}$$

Where A represents the points on the Likert scale, ranging from 1 to 5; F(A) is the frequency of each point; and N is the total number of respondents. In this study, Spearman's rank correlation was used to examine the relationship between the adoption of non-financial motivators and the productivity of construction workers. Correlation coefficient (rho) values less than 0.45 indicate a weak positive relationship, while values between 0.5 and 1 indicate a strong positive relationship. Similarly, rho values less than -0.45 indicate a weak negative relationship, and values between -0.5 and -1 indicate a strong negative relationship [64]. Here, P1 represents workers' output, P2 represents presenteeism, P3 represents quality of work, P4 represents average man-hours spent, and P5 represents work completion rate.

3.0 Results and Discussion

Table 4 presents the characteristics of the survey respondents. Most respondents are engineers (n = 15, 34.88%) and masons (n = 21, 33.87%). The engineers have more than 16 years of work experience, while the masons have over 11 years. Additionally, the construction professionals have managed more than 10 projects, whereas the artisans have handled over 20 projects. Furthermore, most of the professionals listed in Table 4 hold a B.Sc. as their highest educational qualification (n = 18, 41.86%).

Table 4: Background information of construction site workers

Categories	Description	Frequency	Percentage
Professionals	Quantity Surveyors	10	23.26%
	Architects	12	27.91%
	Engineers	15	34.88%
	Builders	6	13.95%
	Total	43	100.00%

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Table 4: Background information of construction site workers (Cont'd)

Categories	Description	Frequency	Percentage
Years of Experience	0 – 5 years	3	6.98%
	6 – 10 years	10	23.26%
	11 – 15 years	10	23.26%
	16 – 20years	13	30.23%
	Above 20 years	7	16.27%
	Total	43	100.00%
Number of Projects Involved in the Construction Industry	0 – 5	10	23.26%
	6 – 10	13	30.23%
	11 – 15	10	23.26%
	16 – 20	7	16.27%
	Above 20	3	6.98%
	Total	43	100.00%
Highest Academic Qualification of SME Owners/Managers	Higher National Diploma	12	27.91%
	Bachelor of Science	18	41.86%
	Post Graduate Diploma	8	18.60%
	Master of science	4	9.30%
	Doctor of Philosophy	1	2.33%
	Total	43	100.00%
Trade (artisans)	Masons	21	33.87%
	Iron Benders	18	29.03%
	Carpenters	16	25.81%
	Service workers	7	11.29%
	Total	62	100.00%
Years of Experience	0 – 5 years	3	4.84%
	6 – 10 years	14	22.58%
	11 – 15 years	25	40.32%
	16 – 20years	17	27.42%
	Above 20 years	3	4.83%
	Total	62	100.00%
Number of Projects Involved in the Construction Industry	0 – 5	0	0%
	6 – 10	2	3.23%
	11 – 15	10	16.13%
	16 – 20	15	24.19%
	Above 20	35	56.45%
	Total	62	100.00%

3.1 Adoption of Non-Financial Motivators

Table 5 presents the level of adoption of non-financial motivators among construction workers in Edo State. Respondents were asked to rate the frequency of use of these motivators on construction sites. Their responses were collected and analysed, with the results presented below.

Table 5: Construction participants adoption of non-financial motivators

S/N	Non-financial Motivators	Professionals			Skilled Workers		
		Frequency of Use			Frequency of Use		
		Tick	Percentage (%)	Frequency	Tick	Percentage (%)	Frequency
NFM1	Participation in Decision making	43	100.00	always	62	100.00	always
NFM2	Recreational activities	43	100.00	always	58	93.55	always
NFM3	Good Supervision	40	93.02	always	55	88.71	always
NFM4	Provision of Work Tools/Equipment	37	86.05	always	50	80.65	always

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Table 5: Construction participants aadoption of non-financial motivators (Cont'd)

S/N	Non-financial Motivators	Professionals			Skilled Workers		
		Frequency of Use			Frequency of Use		
		Tick	Percentage (%)	Frequency	Tick	Percentage (%)	Frequency
NFM5	Good relationship with mates	37	86.05	always	45	72.58	often
NFM6	Job security	33	76.74	often	45	72.58	often
NFM7	Opportunity to observe national holidays	30	69.77	often	41	66.13	often
NFM8	Feedback	26	60.47	often	39	62.90	often
NFM9	Transportation facilities	25	58.14	average	39	62.90	often
NFM10	Approval and Appreciation	23	53.49	average	36	58.06	average
NFM11	Counselling	23	53.49	average	36	58.06	average
NFM12	Opportunity for challenging job	22	51.16	average	31	50.00	average
NFM13	Promotion when due	20	46.51	average	29	46.77	average
NFM14	Health and safety services	20	46.51	average	25	40.32	average
NFM15	Regular Feedback and Communication	20	46.51	average	25	40.32	average
NFM16	Improved Work Conditions	19	44.19	average	25	40.32	average
NFM17	Provision of safety equipment	19	44.19	average	21	33.87	sometimes
NFM18	love and belongingness	18	41.86	average	20	32.26	sometimes
NFM19	Personal attention that communicates interest	17	39.53	sometimes	17	27.42	sometimes
NFM20	Residential Accommodation	15	34.88	sometimes	15	24.19	sometimes
NFM21	Flexible Work methods/Freedom	12	27.91	sometimes	15	24.19	sometimes
NFM22	Training and Development	12	27.91	sometimes	13	20.97	sometimes
NFM23	Competition	12	27.91	sometimes	10	16.13	seldom
NFM24	Award and Recognition	9	20.93	sometimes	10	16.13	seldom
NFM25	Employee Empowerment	9	20.93	sometimes	9	14.52	seldom
NFM26	Insurance	9	20.93	sometimes	7	11.29	seldom
NFM27	Employee Engagement Activities	9	20.93	sometimes	7	11.29	seldom
NFM28	Materials things as gifts	9	20.93	sometimes	4	6.45	seldom
NFM29	Vacations	9	20.93	sometimes	4	6.45	seldom
NFM30	Feeding	9	20.93	sometimes	3	4.84	seldom

Findings from Table 5 revealed the four most commonly adopted non-financial motivators for both professionals and skilled workers in the construction industry: "Participation in Decision Making, "Recreational Activities, "Good Supervision, and "Provision of Work Tools/Equipment. However, it was noted that all non-financial motivator variables were sometimes used to motivate construction professionals, whereas eight variables—such as competition, awards and recognition, employee empowerment, insurance, employee engagement, material gifts, vacations, and feeding—were seldom used for skilled workers in Edo State.

3.2 Factors Necessitating Adoption

Respondents were also asked to rate the factors necessitating the adoption of non-financial motivators for construction workers. The results of the analysis are presented in Table 6. The top five factors driving the adoption of non-financial motivators were: desire to improve workers' lifestyles (ms = 4.05), surrounding culture (ms = 3.99), worker retention and loyalty (ms = 3.98), potential to prevent disputes (ms = 3.97), and

the need for motivation beyond financial incentives (msc = 3.96). Among the lowest-ranked factors were worker growth (ms = 3.56), Ignorance of the knowledge and benefits of non-financial motivators (ms = 3.54) and the varying levels of workers' needs (ms = 3.53).

Table 6: Factors necessitating the adoption of non-financial motivators

Factors	Professionals		Skilled Workers		Overall		
	Mean	Rank	Mean	Rank	Mean	Std. Deviation	Rank
Desire to improve workers lifestyle	4.00	6	4.09	3	4.05	0.63	1
Surrounding culture	3.70	17	4.27	1	3.99	0.89	2
Workers retention/loyalty	4.10	4	3.85	7	3.98	0.79	3
Potential to prevent dispute	4.30	1	3.64	14	3.97	1.03	4
Need for more motivation beyond financial motivators	4.02	5	3.89	4	3.96	0.83	5
Available budget	3.72	16	4.18	2	3.95	0.79	6
Money mindset of workers	4.18	2	3.65	13	3.92	0.70	7
Work progress	3.90	8	3.90	5	3.90	0.89	8
Project limited deadlines	3.95	7	3.75	10	3.85	0.88	9
Need to retain pleasure while working	3.80	13	3.88	6	3.84	0.83	10
For research purposes	3.88	10	3.78	9	3.83	0.88	11
Adaptation to changing needs	3.77	14	3.82	8	3.80	0.79	12
Management love for workers	3.85	11	3.73	11	3.79	0.88	13
Improved working conditions	3.84	12	3.67	12	3.76	0.89	14
Need to contrast and measure the effectiveness of non-financial motivators	4.14	3	3.36	18	3.75	0.86	15
Mental health of workers	3.73	15	3.62	15	3.68	0.88	16
Size of company	3.60	19	3.61	16	3.61	0.69	17
Growth of workers (More workers will be attracted)	3.66	18	3.45	18	3.56	0.94	18
Ignorance of the knowledge and benefits of non-financial motivators	3.90	9	3.18	19	3.54	0.76	19
Levels of needs of workers	3.50	20	3.55	20	3.53	0.83	20

3.3 Relationship between Non-Financial Motivator and Productivity

Table 7 presents the Spearman rank correlation analysis of the respondents. The acronym NFM represents non-financial motivators adopted, while P denotes the productivity levels of workers, as rated by their supervisors. The findings indicate that there is no significant association between non-financial motivators and workers' productivity, except for NFM30 (feeding), which shows a strong positive correlation with P4 (average man-hours spent), and NFM29 (vacation), which exhibits a strong negative correlation with P4 (average man-hours spent).

Table 7: Relationship between non-financial motivator and productivity

	Non-Financial Motivators	P1	P2	P3	P4	P5
NFM1	Participation in Decision making	-.006	.356*	.172	-.312	.289
NFM2	Recreational activities	-0.072	0.146	-0.045	-.347*	.409**
NFM3	Good Supervision	0.012	0.108	0.035	0.068	0.045
NFM4	Provision of Work Tools / Equipment	-0.199	0.045	-0.233	-0.232	0.151
NFM5	Good relationship with mates	0.090	0.126	-0.012	0.135	-0.017
NFM6	Job security	0.000	0.229	0.086	-0.226	0.132
NFM7	Opportunity to observe national holidays	-0.098	-0.108	0.08	.316*	0.175
NFM8	Feedback	-0.061	0.195	0.057	-.365*	0.183
NFM9	Transportation facilities	-0.032	.339*	0.082	-0.171	.357*
NFM10	Approval and Appreciation	-0.045	-0.102	0.008	-0.137	-0.273
NFM11	Counselling	0.119	0.143	-0.126	-0.039	0.247
NFM12	Opportunity for challenging job	0.079	0.147	0.169	0.065	0.292
NFM13	Promotion when due	-0.048	-0.014	0.016	0.142	0.268

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	Non-Financial Motivators	P1	P2	P3	P4	P5
NFM14	Health and safety services	0.131	0.173	0.059	0.022	.484**

Table 7: Relationship between non-financial motivator and productivity (Cont'd)

	Non-Financial Motivators	P1	P2	P3	P4	P5
NFM15	Regular Feedback and Communication	-0.049	0.203	0.188	-0.259	.446**
NFM16	Improved Work Conditions	-0.154	-0.058	-0.112	-0.05	-0.003
NFM17	Provision of safety equipment	-0.226	-0.065	0.295	0.307	-0.087
NFM18	love and belongingness	-0.103	.388*	0.167	0.221	0.258
NFM19	Personal attention that communicates interest	-0.220	0.191	0.019	-0.157	-0.022
NFM20	Residential Accommodation	-0.027	0.238	-0.051	-0.166	0.271
NFM21	Flexible Work methods/Freedom	0.015	-0.076	-0.178	-.314*	-0.085
NFM22	Training and Development	0.119	-0.182	0.060	-0.159	-0.137
NFM23	Competition	-0.007	-0.173	0.107	0.124	-0.107
NFM24	Award and Recognition	0.015	0.081	0.152	0.256	0.184
NFM25	Employee Empowerment	-0.133	-0.092	-0.032	-0.097	-0.195
NFM26	Insurance	0.120	0.092	0.214	-0.128	0.237
NFM27	Employee Engagement Activities	-0.019	-0.156	-0.084	0.256	-0.089
NFM28	Materials things as gifts	-0.305	-0.248	-0.018	0.145	-0.248
NFM29	Vacations	0.163	0.231	0.029	-.530**	0.103
NFM30	Feeding	0.031	-0.068	0.221	.529**	-0.135

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

3.4 Discussion of findings

To maintain and enhance the productivity of construction workers, many construction firms in Edo State must embrace the potential of motivational practices to improve worker performance. Numerous studies have demonstrated the effectiveness of motivation in achieving increased productivity. However, most of these studies have focused primarily on financial motivators. This study takes a different approach by examining the impact of non-financial motivators on the productivity of construction workers. Table 5 presents the frequency of use of non-financial motivators for construction workers in Edo State. The most prominent non-financial motivators reported across most sites covered by the study are participation in decision-making, recreational activities, and effective supervision. Other motivators in this category include the provision of work tools and equipment, as well as fostering good relationships among co-workers. These non-financial motivators are adopted by 80% to 100% of the firms, indicating their consistent application for both professionals and skilled workers in the construction industry in Edo State. Furthermore, the data show that non-financial motivators such as material gifts, vacations, and meals are occasionally used to motivate construction professionals but are rarely employed to motivate skilled workers on-site in Edo State. These findings align with those of [3, 46]. Sabo [54], further suggests that skilled workers should be encouraged through non-financial benefits such as awards and recognition, empowerment, and insurance. This implies that when skilled workers receive proper recognition and insurance during construction activities, they are more likely to perform at their best, thereby enhancing productivity.

Table 6 presents the top three factors necessitating the adoption of non-financial motivators: the desire to improve workers' lifestyles, surrounding culture, and workers' retention/loyalty, which aligns with the findings of [42]. The desire to improve workers' lifestyles is a major driver for implementing non-financial motivators in the construction industry. Although construction workers face numerous tasks under stressful and hazardous conditions [7], construction firms must recognize them beyond financial incentives by providing skill development, recognition, health and safety practices, and growth opportunities, all of which enhance their well-being and productivity. Surrounding culture plays a crucial role in shaping construction workers' expectations, behaviour, and motivation [7, 10]. Workers tend to be more productive when they receive praise and feel a sense of belonging, especially when treated fairly by their superiors. Motivating workers with awards such as or commendation letters encourages others to emulate these efforts, striving for recognition themselves. Workers' retention and loyalty rank third among the factors necessitating the adoption of non-financial motivators. The construction industry experiences high labour turnover, which increases training costs, disrupts project continuity, and lowers team cohesion [65]. However, when firms invest significantly in their workers' growth and welfare, employees are more likely to remain with the company and recommend it to others who are willing to work diligently.

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Table 7 shows that there is a strong positive association between NFM30 (feeding) and P4 (average man-hours spent), which means that when feeding is incorporated into workers' welfare programs, it will significantly improve their productivity. Daily meals can serve as an incentive for construction workers to have the energy needed to carry out strenuous tasks and ensure a consistent workflow throughout the day. This aligns with [37, 59]. Also, NFM29 (vacations) has a negative association with P4 (average man-hours spent). This means that providing vacations to workers does not necessarily increase productivity. A poorly planned vacation without proper handovers and backup staff can negatively affect productivity [40]. Furthermore, it was observed that there is no relationship between other non-financial motivators and workers' productivity.

4.0 Conclusion

This study investigated the adoption of non-financial motivators for construction workers (skilled and professionals) in Edo State, Nigeria. The findings revealed that the most commonly adopted non-financial motivators were participation in decision-making, recreational activities, good supervision, provision of work tools/equipment, and good relationships with co-workers. The key factors necessitating the adoption of these non-financial motivators include the desire to improve workers' lifestyles, the surrounding culture, and workers' retention/loyalty. Furthermore, the findings show that only feeding and vacations have a relationship with the productivity of skilled workers. By adopting a balanced approach that incorporates both financial and non-financial motivators, construction firms can foster a more engaged, satisfied, and productive workforce, ultimately leading to improved project outcomes and organizational success. It is recommended that firms should improve their approach to increasing the level of adoption of non-financial motivators, such as employee engagement activities, material gifts, and vacations, as these were previously underutilized to motivate skilled workers, particularly those in the construction industry, compared to other professionals. Supervisors should incorporate more non-financial motivators into their motivational approaches, as they have been shown to improve workers' retention/loyalty and have a higher potential to prevent disputes compared to financial motivators. It is therefore suggested that further study be conducted to compare the relationship between financial and non-financial motivators on the productivity of skilled construction workers to identify the more effective type. This study was limited by a number of factors, including high rainfall during this wet season and language barriers that affected how the artisans understood the questionnaires.

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