

The Influence of Intrinsic and Extrinsic Motivation in Workers' Productivity: Empirical Evidence from the Construction Industry

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ABSTRACT: *The human resource remains the most critical productive asset of any organization as it is the human element that gives direction and dynamism to the organization. This study investigated the effect intrinsic motivations and extrinsic motivations have on employee productivity of four selected construction companies in Delta State. To achieve its objectives, the study adopted a quantitative research approach with a survey research design. From a population figure of 242 low-level permanent employees of the four selected construction companies in Delta State, 151 constituted the sample as data were collected through a structured questionnaire using the cross-sectional approach. Descriptive statistics and simple regression analysis were used to analyze the data gathered and test the study hypotheses. Findings revealed that intrinsic motivation has a significant positive effect on employee productivity and extrinsic motivation also exerts a significant positive effect on employee productivity. Also, the most effective tools of extrinsic motivation are competitive salaries, extra work bonuses, and opportunities for promotion. Based on these findings, it was concluded amongst others, that the desire to gain mastery and contributes to societal development through construction-related activities gives low-level construction workers some level of satisfaction and financial-related incentives have an immediate and powerful effect on their performance. The key recommendation of the study is that to make a foster high level of productivity from the employee, top management should adopt a performance-based payment system and sell the benefits of contributing to societal development to the construction workers, acknowledging their contribution through noble initiatives like recognition from an authority, opportunity for mentoring, participation in decision making.*

KEYWORDS: intrinsic motivation, extrinsic motivation, employee productivity

INTRODUCTION

Globalization and other related factors have largely influenced the dynamics of human resource management in organizations leading to the adoption of various methods and techniques in developing and maintaining their human resources to enhance overall performance. It has been said that human resource remains the most critical productive asset of any organization as it is the human element that gives direction and dynamism to the organization (Güngör, 2011). Organizations can easily change their material, needs, goods and services to other organizations, or to other countries. But the only resource which is not easily exchangeable is human resources. It is for this reason that the search for ways and means of motivating the workforce for optimal organizational performance has more or less remained a cardinal concern of management since the birth of industrial civilization (Zameer, Ali, Nisar & Amir, 2014). Any organization can only grow to the extent made possible by the voluntary and creative application of the skills and expertise of its workforce.

Over time, organizations like construction firms often hinge on their successes to the effective motivation of employees which ensures productivity and improved performance (Hanaysha & Majid, 2018). Motivation is regarded as the process of arousing and sustaining goal-directed behaviour amongst a group of people or workers (Campbell & Nelson, 2013). In an organizational setting, motivation means ways to make subordinates act in a desired manner in the interest of the organization or employer. Studies in organizational behaviour and psychology have developed a variety of theories and approaches to human motivation to find the determinants of motivation and performance in organizations, Kifordu, et al (2022).

One of the key issues that most organizations face nowadays is the need to improve employee productivity. Employee productivity is an assessment of the efficiency of a worker or group of workers. In actual terms, productivity is a component which directly affects the company's profits (Gummesson, 1998). Improving employee productivity has been one of the most important objectives for several organizations. This is because higher levels of employee productivity provide an organization and its employees with various advantages. For instance, higher productivity leads to favourable economic growth, large profitability and better social progress (Sharma & Sharma, 2014).

The construction industry has been labelled unproductive across the nations of the world as a result of low productivity being recorded in the sector (Eldin & Egger, 1990; Aiyetan & Olotuah, 2006). Several empirical studies exist to support this observation. The low performance is been attributed to a lack of effective utilization of working hours per day by workers in the sector (Arditi & Mokhtar, 2014). This issue of productivity decline was observed by the World Economic Forum in its 2011-2012 global competitiveness report. The report indicates that across the regions of the world, Africa has the second lowest productivity growth

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rate of -1.1 per cent between 1987 and 1995, and also, 1.3 per cent between 1995 and 2007. Nigeria's construction sector is not an exception, in the West Africa sub-region, Umoru and Yaquib (2013) reported that the productivity growth rate in Nigeria is 1.2 per cent between 2000 and 2008 which is below other countries in the sub-region and by far below the sub-regional average of 1.9 per cent. GDP levels of sectors were compared in Nigeria, and the outcome indicates that in 2008; the construction sector contributed 1.3 per cent and was ranked seventh out of twelve sectors considered in the report. In 2013, its contribution increased to 3.1 percent but its ranking dropped to ninth.

A thorough examination of strands of research conducted has established that the poor performance of the construction industry is linked to the inadequate motivation of workers. It is worthy of note that researchers have also concentrated efforts on motivating factors that can enhance productivity improvement and come out with recommendations in this regard (Smithers & Walker, 2000; Arditi & Mokhtar, 2014; Aiyetan & Olotuah, 2006). However, despite the large volume of research that has been conducted in this area, there is still a paucity of work that has been able to delineate the impact of intrinsic and extrinsic motivations on workers' productivity. Furthermore, there are little or no studies to the best of the researcher's knowledge that have focused largely on identifying key tools of extrinsic motivations that management can use to influence the productivity of employees. Against this background, this study aims to fill this yearning gap by investigating the impact of motivation indicators on employee productivity using a selected construction company as a case in point.

LITERATURE REVIEW

Intrinsic motivation

Intrinsic motivation is defined as the doing of an activity for its inherent satisfactions rather than for some separable consequence. That is, intrinsic motivation involves people doing an activity because they find it interesting and derive spontaneous satisfaction from the activity itself. It refers to motivation that emerges from within a person which includes feelings of self-esteem, accomplishment, and recognition amongst others. Ackerman, (2021) stated that there are internal drives that inspire us to behave in certain ways, including our core values, our interests, and our sense of morality. When intrinsically motivated a person is moved to act for the fun or challenge entailed rather than because of external prods, pressures, or rewards (Ryan & Deci, 2000).

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 one determined by the need to feel skilled and self-determined as an individual. On the one hand, an individual will seek out challenges

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that allow him/her to behave in ways that provide him/her with a sense of competence and self-determination (Zailani, Ibrahim & Bahago, 2020).

The extent to which people are intrinsically motivated predicts persistence and performance in the workplace, academics, health behaviours and more (Cerasoli et al. 2014; Grant & Berry 2011). The reason IM is a critical predictor of engagement across these domains is rooted in the definition of intrinsically motivated action as rewarding in itself. The individual cannot separate pursuing the activity from receiving its benefits. They may even find it strange to answer what they are getting out of pursuing a particular task because the main purpose for engaging in the task is simply to be able to do it (Fishbach, & Woolley, 2021). Based on the foregoing, we therefore formally propose that:

H₀₁: Intrinsic motivation has no positive or significant effect on the productivity of workers in construction firms.

Extrinsic motivation

Extrinsic motivation is conceptualized as behaviour that is driven by external rewards. Ackerman, (2021) aptly defined it as a drive to behave in certain ways based on external sources and it results in external rewards. Extrinsic motivation requires an instrumentality between the activity and some separable consequences such as tangible or verbal rewards; hence, satisfaction comes not from the activity itself but rather from the extrinsic consequences to which the activity leads (Gagne & Deci, 2005).

Extrinsic factors emanate mostly 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, awards and accolades, and the respect and admiration of others. These rewards can also be intangible, such as praise or fame. Unlike intrinsic motivation, which arises from within the individual, extrinsic motivation is focused purely on outside rewards.

According to Zailani, Ibrahim and Bahago(2020), extrinsic motives cannot only be satisfied by the work itself; it requires a reward system where the value of work is seen in a reward for that work. That means pleasure comes from something the task leads to, such as money. The effects of work, as well as its contributing factors, are also of importance for 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.

Cherry (2021) opines that people who are extrinsically motivated will continue to act, even though the task might not be rewarding in and of itself rewarding. For example, when one does

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something at his or her job that might not normally find enjoyable or rewarding to earn a wage. Based on the examined literature, this present study proposes that:

Ho₂: Extrinsic motivation has no positive or significant effect on the productivity of workers in construction firms.

Aims and Hypotheses

The nature of the research problem above led to the formulation of pertinent research objectives, which are to;

- a. Determine the impact of intrinsic motivation on the productivity of workers in construction firms.
- b. Establish the effect of extrinsic motivation on the productivity of workers in construction firms.
- c. Find out which tools of extrinsic motivation are most effective in improving the productivity of workers in construction firms

Ho₁: Intrinsic motivation has no positive or significant effect on the productivity of workers in construction firms.

Ho₂: Extrinsic motivation has no positive or significant effect on the productivity of workers in construction firms.

THEORETICAL REVIEW

This study examines two content theories and a newer model of motivations as underpinnings upon which the relationships among study variables are examined. Content theories focus on what people need in their lives, that is, what motivates them.

Maslow's Hierarchy of Needs

Teresa Amabile (1983) Psychologist Abraham Maslow proposed that all people seek to satisfy five basic kinds of needs, physiological needs, safety needs, belongingness needs, esteem needs and self-actualization needs.

1) Physiological Needs: Maslow regards these needs as those basic needs for continued existence. e.g. hunger, thirst, sleep, sex etc.

2) Safety Needs: The second level of need is the need for safety, security or protection against danger, threat and deprivation. Maslow stresses emotional as well as physical safety.

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3) Love or Social Need: when the individual is physiologically satisfied and feels reasonably secure, he begins to yearn for close social relationships. He feels the need to love and be loved, to become an integral part of a group and its endeavours.

4) Esteem Needs: Closely related to the need for love and affiliation are the need for status self-image. The individual desires a positive self-image. He wishes to consider himself strong, able, competent, moral (by his standard), or generally worthy.

5) Need for Self-actualization or /self-fulfilment: This refers to man's desires to grow, to develop to his fullest potential, and to become what he is capable of becoming. Reflections of this need might be one's desire to upgrade skills or to take on increased responsibility. He suggested that those needs constitute the hierarchy of needs, with the most basic or compelling needs – physiological and safety needs at the bottom. Maslow argued that this lowest need must be met before a person will strive to satisfy needs higher up in the hierarchy such as self-esteem needs. Although this theory identifies needs that are likely to be important sources of motivation for many people, the researcher does not support Maslow's contention that there is a need hierarchy or his notion that only one level of needs is motivational at a time. Nevertheless, a key conclusion can be drawn from Maslow's theory.

Herzberg's two-factor theory

Frederick Herzberg's two-factor theory is another framework for understanding the motivational implications of the work environment. Herzberg extended the work of Maslow and developed a specific content theory of work motivation. In 1959, Herzberg and his associates published a research report concerning the attitudes of people to work. Herzberg (1996:19), concluded his research by noting that job satisfiers were related to job content and job dissatisfiers were allied to job content. The satisfiers were labelled motivators and the dissatisfiers were called hygiene factors. The studies were first carried out on engineers and accountants employed in nine different companies and later on employees at all levels totalling about 1,685. These studies led Herzberg to divide the factors, which motivate workers into the two main categories earlier mentioned.

THE "HYGIENE" FACTOR, which ranges from the state of dissatisfaction to one of satisfaction and can be interpreted to mean that hygiene (in the sanitary process) cannot take people healthier but can prevent illness, i.e. can prevent people from being unhealthy, when applied to workplace these factors make workers happy and satisfied in the workplace but their absence or deficiency can create unhappiness and dissatisfaction. By themselves, the hygiene factors do not motivate They include: (a) Organizational policies and practice (b) Style of supervision and management control (c) Working conditions (d) Working environment (e) Interpersonal and social relationships within the working arrangement. These factors, it will be

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seen, relate to the conditions under which the worker operates rather than to the actual work itself, Kifordu A. A(2022).

THE MOTIVATORS: This is roughly equivalent to Maslow's high level of needs. The Herzberg's theory, an individual must have a job with challenging content to be truly motivated. Unlike the hygiene factors, the motivators have a positive and long-lasting effect on workers' performance as they are related to the work itself. For a worker to be happy and satisfied the job itself must be a sense of motivation, such factors include (1996:52): (a) Achievement (b) Recognition (c) Responsibility (d) Advancement (e) Self-development

Self-Determination Theory (SDT)

In psychology, self-determination is an important concept that refers to each person's ability to make choices and manage their own life. Self-Determination Theory grew out of the work of psychologists Edward Deci and Richard Ryan, who first introduced their ideas in their 1985 book *Self-determination and intrinsic motivation in human behaviour*. They developed a theory of motivation which suggested that people tend to be driven by a need to grow and gain fulfilment (Ackerman, 2021).

The theory proposes that people are motivated to grow and change by three innate and universal psychological needs. In other words, people can become self-determined when their needs for competence, connection and autonomy are fulfilled. SDT links personality, human motivation, and optimal functioning. The theory suggests that there are two main types of motivation- intrinsic and extrinsic- and that both are powerful forces in shaping who we are and how we behave (Deci & Ryan, 2008). The concept of intrinsic motivation, or engaging in activities for the inherent rewards of the behaviour itself, plays an important role in self-determination theory. The two key assumptions of the theory are:

The need for growth drive behaviour: the first assumption is that people are actively directed toward growth. Gaining mastery over challenges and taking in new experiences are essential for developing a cohesive sense of self.

Autonomous motivation is important: while people are often motivated to act by external rewards such as money, and prizes (known as extrinsic motivation), self-determination theory focuses primarily on internal sources of motivation such as a need to gain knowledge or independence.

METHODS

Research method refers to the techniques, activities and procedures researchers follow to collect and analyze data in solving a research problem (Saunders, Lewis and Thornhill, 2009).

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This research aims to assess how the dimensions of intrinsic and extrinsic motivations influence workers' productivity of selected construction companies; comprising CCC Construction Nigeria Limited, Inter-Bau Construction Company, Niger Construction Limited and Lee Engineering and Construction Company Limited.

In line with this, the overall framework the study adopts is the descriptive survey research design. This method is usually concerned with the systematic gathering of information from respondents for understanding and/or predicting some aspects of the behaviour of the population of interest (Olannye, 2013). The unit of analysis used in the study is the site workers of the four selected companies. It was presumed that these groups of people could provide more informed responses to the questions contained in the questionnaire relating to the title of the study.

Disproportionate Stratified random sampling was the strategy applied in administering questionnaires to the sample size of 151.

Measurement: At the first stage of measurement, the motivation of the independent variables was operationalized into terms of its two indicators of intrinsic and extrinsic motivations as identified in prior studies. (Berumen et al., 2016; Korunka & Vitouch., 1999). Subsequently, *intrinsic motivation* was operationalized as; autonomy, competence, relatedness and beneficence (Martela, & Riekkki, 2018; Ryan & Deci., 2000). *Extrinsic motivation* is; fair compensation packages, favourable working conditions, recognition and perks (Kahungya, 2016; Sageer, et al., 2012; Thomas et al., 2004).

Validity of measurement: This focuses on ensuring that the measuring instrument is of quality to prevent measurement errors. To establish face validity, the actual meaning of constructs was done initially in line with the literature and copies of the questionnaire were scrutinized by experts. Using Cronbach's Alpha coefficient test to measure the measurement scale reliability, the internal consistency of the study variables was confirmed. The recommended coefficient value for Cronbach's Alpha test score is set at 0.7 (Hair, Bush & Ortinau, 2010)

Table 4.1 Reliability coefficients of study constructs

Dimension of study constructs	Number of items	Number of cases	Cronbach's Alpha coefficient
Intrinsic motivation	4	20	0.856
Extrinsic motivation	7	20	0.893
Workers productivity	4	20	0.824

Source: SPSS output of pilot survey data

RESULTS

To determine the effect intrinsic motivation and extrinsic motivation exert on workers' productivity a simple regression was conducted using sample data from a field survey. The results are shown in the Tables below;

Table 4.2 Model Summary of regression analysis of intrinsic motivation and Workers' Productivity

Model	R	R Square	Adjusted R Square	Std. The error in the Estimate
1	.364 ^a	.133	.119	2.315

a. Predictors: (Constant), Intrinsic motivation.

Source: SPSS output of field survey data.

From the model summary table above, the R^2 value of .133 implies that 13.3% of the variation in workers' productivity is brought about by the effect of intrinsic motivation.

Table 4.3 Regression Analysis of intrinsic motivation and Workers' Productivity**Coefficients^a**

Model	Unstandardized Coefficient		Standardized Coefficient	T	Sig.
	B	Std. Error	Beta		
1 (constant)	9.453	2.098		4.505	.000
Intrinsic motivation	.405	.131	.364	3.105	.003

a. Dependent Variable: worker productivity

Source: *SPSS output of field survey data.*

In the coefficient table above, the β value recorded shows the extent to which intrinsic motivation has a positive statistically significant relationship with workers' productivity ($\beta = .405$, $P < 0.01$). The beta value of 0.364 implies that a 1 unit increase in the intrinsic motivation variable will result in a 0.364 increase in worker productivity and vice versa.

Table 4.4 Model Summary of regression analysis of extrinsic motivation and Workers' Productivity

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.353 ^a	.124	.110	2.327

a. Predictors: (Constant), Extrinsic motivation.

Source: *SPSS output of field survey data, 2021.*

In the model summary table above, the R^2 or coefficient of determination value of .124 means that a 12.4% variation in workers' productivity is explained, or accounted for, by the variation in extrinsic motivation.

Table 4.5 Regression Analysis of extrinsic motivation and Workers' Productivity**Coefficients ^a**

Model	Unstandardized		Standardized	t	Sig.
	Coefficient		Coefficient		
	B	Std. Error	Beta		
1 (constant)	9.878	2.037		4.848	.000
Extrinsic motivation	.394	.132	.353	2.990	.004

a. Dependent Variable: employee productivity

Source: SPSS output of field survey data

In the coefficient table above, the reported β value of .394 shows the extent to which extrinsic motivation has a statistically significant effect on workers' productivity ($\beta = .394$, $P < 0.01$). The beta value of 0.353 implies that a 1-unit increase in extrinsic motivation variable will result in a 0.353 increase in workers' productivity and vice versa.

Based on the results, intrinsic motivation has a positive effect which is statistically significant on workers' productivity ($\beta = 0.364$, $P < 0.01$). The p-value of .003 is significant and more than the acceptable 95% confidence interval. Thus, **the null hypothesis (Ho₁) is rejected and the alternate hypothesis is accepted.** This implies that sample data provided convincing evidence or proof of the claim that there is a significant positive relationship between intrinsic motivation and workers' productivity. From the regression coefficients in Table 7.4, extrinsic motivation has a positive and statistically significant effect on workers' productivity ($\beta = .353$, $P < 0.01$). The p-value of .004 is significant and more than the acceptable 95% confidence interval. Thus, **the null hypothesis (Ho₂) is rejected and the alternate hypothesis is accepted.** This implies that sample data provided convincing evidence that there is a significant positive relationship between extrinsic motivation and workers' productivity.

Objective three: which tools of extrinsic motivation are most effective in improving the productivity of workers in construction firms?

To address research objective three, the respondent's preferences and rating of the degree of importance of the seven identified extrinsic motivation tools are used. The table below gives details of their preferences.

Table 4.6 Motivational tools preference

S/N	Extrinsic Motivation tools	Rating Scale				
		NAI 1	SLI 2	SWI 3	VRI 4	EXI 5
16	Competitive salary	— —	— —	— —	47 (37.3)	79 (62.7)
17	Favourable working environment.	— —	12 (9.5)	28 (22.2)	36 (28.6)	50 (39.7)
18	Opportunity for promotion.	— —	4 (3.2)	25 (19.8)	40 (31.7)	57 (45.3)
19	Recognition for performance	— —	9 (7.1)	23 (18.3)	39 (30.9)	55 (43.7)
20	Transportation benefits	18 (14.3)	24 (19.0)	13 (10.3)	30 (23.8)	41 (32.5)
21	Medical benefits	— —	16 (12.7)	32 (25.4)	33 (26.2)	45 (35.7)
22	Extra work bonuses	— —	— —	25 (19.8)	41 (32.5)	60 (47.6)

Source: computed from field survey data.

The descriptive pattern of responses in Table 7.5 for a rating of extrinsic motivation sub-scale shows that for *competitive salary* the total respondents 126 (100%) regard it as either a very important or extremely influential tool. Based on this, it ranked first as the most effective extrinsic motivation tool.

With regards to the *favourable working environment*, 86 sampled individuals representing 68.3% of the total respondents opined it is a very influential motivating tool, while others

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(31.7%) regarded it as not too influential. Based on this, it ranked fifth in effectiveness as an extrinsic motivation tool.

For *the opportunity for promotion*, 97 (77%) of the total respondents rate it as a very influential tool of extrinsic motivation, while the rest of the respondents 29 (23%) rate it as slightly or somewhat influential. As a result of this, it ranked 3rd as the most effective extrinsic motivation tool.

Concerning *recognition for performance*, 94 sampled individuals representing 74.6% of the total respondents rated it as very or extremely influential and the rest 32 respondents view it as marginally influential. As a result of this, it ranked fourth in effectiveness as an extrinsic motivation tool.

Concerning *transportation benefits*, 71(56.3%) of the total respondents regard it as very or extremely influential, 37 (29.3%) view it as fairly influential while to the rest 18(14.3%) it is not all influential. Based on this, it ranked least among the seventh tools of extrinsic motivation tools.

For *medical benefits*, 78 (61.9%) of the total respondents rate it as a very influential tool of extrinsic motivation, while the rest of respondents 48 (38.1%) rate it as slightly or somewhat influential. As a result of this, it ranked 6th as the most effective extrinsic motivation tool.

Concerning *extra work bonuses*, 101 sampled individuals representing 80.2% of the total respondents rated it as very or extremely influential and the rest 25 (19.8%) respondents view it as marginally influential. As a result of this, it ranked first as the most effective extrinsic motivation tool.

From this result, the top three most effective tools of extrinsic motivation in the construction industry are a competitive salary, extra work bonuses, and opportunity for promotion respectively

CONCLUSION

In light of the foregoing findings noted, the conclusions made are as follows; the desire to gain mastery or acquire skill and contributes to societal development through construction-related activities gives low-level construction workers some level of satisfaction which sustains the effort they also put in. Secondly, external rewards particularly financial-related incentives have an immediate and powerful effect on both the performance and length of time a low-level worker continues in the construction industry. Finally, even though low-level construction workers are happy with the bonuses they receive from the overtime they put in, they needed more incentives in terms of their regular emoluments and chance to progress in their careers.

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Leadership style has a positive and significant influence on firm performance in Nigeria's Fintech industry ($\beta=0.468$, $P=.000 <0.05$),

Based on the conclusions, practical suggestions are given for the implementation of the findings of this research. To make foster a high level of productivity from employees and sustain their internal drive, top management should sell the benefits of contributing to societal development to the construction workers and acknowledge their contribution through noble initiatives like recognition from an authority, opportunity for mentoring, participation in decision making etc.

The payment structure already existing in the industry should be modified either by an upward review of salary or by replacing it with a payment that is based on performance. In addition, management can consider the introduction of a 13th-month salary payment in the yuletide period. For construction companies to achieve higher employee retention and performance, a clear career path map should be designed with a periodic sensitization program where employees are thoroughly briefed on the level of performance required to progress to the top through the career path.

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