



ASSESSING THE EFFECTS OF SEMI-FINANCIAL INCENTIVE SCHEMES ON CONSTRUCTION PROJECTS' PERFORMANCE

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ABSTRACT

Motivation of workers is one of the important factors determining the success of projects in the construction industry. However, despite the existence of financial and non-financial incentive schemes, many construction organisations still suffer from the problem of demotivation. Traditional incentive schemes have limitations. Semi-Financial Incentive Schemes (SFIS), which combine characteristics of financial and non-financial incentives, have been proposed as a way to overcome these limitations. This study assessed the effect of SFIS on employee motivation and construction project performance of medium and large-scale construction firms in Nigeria. Quantitative research design was utilized and structured questionnaires were distributed to the management and technical staff of construction firms. 256 questionnaires were distributed and 250 were returned and analysed using descriptive statistics (frequencies, mean and standard deviation). Among the fourteen SFIS assessed, “education and training”, “free or subsidized medical services”, “availability of soft loans”, “provision of insurance and staff children's scholarship schemes” were the most significant to both technical and management staff. The combined perceived effects of SFIS on project performance for both medium and large firms, revealed “achievement of goals and objectives”, “improved customer retention” and “better customer relationship”, as having the highest combined mean scores and all fall within the very high effect scale range. While “substantial cost saving” and “increase in profitability” recorded the lowest combined mean scores. This confirms the perception that SFIS affect project performance more profoundly through relational and goal-oriented outcomes than through direct financial rewards. The results support the view that incentives with monetary and non-monetary attributes can satisfy motivational needs related to welfare and performance. The study provides empirical evidence and practical guidance to construction firms for designing incentive structures to improve employee motivation and project delivery outcomes.

Keywords: Construction Project Delivery, Construction Project Performance, Employee Motivation, Semi-Financial Incentives Schemes

INTRODUCTION

The construction industry is labour-intensive. This makes it paramount for the motivational level of its workforce to be high at all times. This is so because evidence has shown a strong correlation between workers' motivation, their productivity, and by extension, project and organisational performance (Temel et al., 2025; Sahadi & Sriyono, 2022).

According to Sha (2019), the success or failure of a construction company depends on the performance of the construction projects it undertakes. The performance of these construction projects is related to workers' motivation and productivity (Kedir & Fayek, 2025). Hewage & Ruwanpura (2006) added that the motivation of workers is a major factor that can stimulate productivity in the

construction sector. Employees are the means through which organisations deliver their products and achieve their goals. For an organisation to deliver its project successfully as planned, it needs to have highly efficient and productive workers (Armstrong, 2010). A major factor that can excel an organisation in a highly competitive and unstable environment like the construction sector is its people (Tetteh & Chan, 2023). Therefore, establishing and maintaining a stable workforce should be a concern for all organisations (Robbin and Decenzo, 1995). This means organisations must give close attention on how individuals could be best motivated (Armstrong, 2010).

Over time, management had viewed employees' expectation of motivation as a reward for their efforts along the line of financial and non-financial incentives only. Typical motivation techniques such as incentives are often used to motivate workers. Incentives induce an organisation or individuals to willingly strive towards the achievement of organisational objectives (Broome and Perry, 2002; Doloi, 2007). Fagbenle, Adeyemi, and Adesanya (2004) noted that companies in Nigeria are currently applying the two available incentive schemes to motivate their employees. Financial incentive schemes (FIS) possess the advantage of making workers more dedicated to work (Fagbenle et al., 2004; Fagbenle, Amusan & Adeosun, 2014). Financial Incentive Schemes tends to deteriorate over some time due to difficulties in its administration or supervision and is also said to only work when newly introduced (Fagbenle et al, 2014; Sang et al., 2022). Similar studies by Applebaum and Kamal (2000) indicated that pay might not be sufficient to stand alone as a motivator.

Research by Martin, Matthew, and Elizabeth (2009) on financial incentives concluded that although people have satisfactory salaries, some nonfinancial motivators are more effective than extra cash in building long-term employee engagement in most sectors (Temel et al., 2025; Martin, Matthew, & Elizabeth, 2009).

Despite the availability of financial and non-financial incentives as motivating factors in improving productivity, there is still high demotivation in the workplace (Aliu & Aigbavboa, 2021). These when allowed uncontrolled may lead to reduced productivity, lower profitability of the construction project, increased absenteeism, and quit rate (Temel et al., 2025). To overcome these, construction companies need to identify and know how to tackle the common factors that enhance employee motivation to upscale project success (Nnaji et al., 2022). Research by Aina (2011) recommended a need to generate a new set of incentives that will solve the shortcoming of financial and non-financial incentives or that will be of substitute in the construction industry. Fagbenle et al (2014) noted that the use of Semi-Financial Incentive Schemes (SFIS) produces satisfactory results when compared to other incentive schemes. SFIs as the name implies are tangible incentives that have attributes of both financial and non-financial incentives. SFIS are those incentives scheme that have some monetary benefits, but which are not directly linked to out-put and wages (Ogwueleka and Maritz, 2014). Saka and Ajayi (2010) further described SFIS as incentives that lie between the two extremes and it has the characteristic of

both financial and non-financial incentives.

Given the limitations of the traditional motivation schemes, recent studies have proposed the need for integration of more incentive approaches (Cheung & Ma, 2025). In this regard, this study seeks to examine the influence of SFIS on improving the motivation of employees and construction project performance in Nigeria.

LITERATURE REVIEW

Motivation in construction

Motivation is the psychological process that directs and maintains goal-oriented behaviour. Motivation affects workers productivity and commitment to project objectives in construction organisations. Recent studies confirm that workforce motivation is a key determinant of successful construction project delivery (Sahadi & Sriyono, 2022). The construction industry is especially susceptible to motivational issues, temporary workforce arrangements, harsh conditions on-site, and the physical nature of the work. A direct relationship between worker motivation and site productivity was shown by Hewage and Ruwanpura (2006). This has also been supported by current research in construction management (Cheung, 2025).

Several motivational theories form the theoretical foundation to understand workforce incentivisation in the construction industry. Maslow's (1943) Hierarchy of Needs provides a framework for understanding human needs in a hierarchy, moving from basic physiological needs to higher-order needs such as esteem and self-actualization. As such, incentive systems should be designed to cater to multiple levels of employee needs. Herzberg (1959)

suggested the theory of two factors, hygiene factors that eliminate dissatisfaction and motivator factors that create satisfaction and performance. Therefore, financial incentives are not necessarily a sustainable motivation. According to Vroom's (1964) Expectancy Theory, motivation is dependent on the employee's perception that effort will result in performance, performance will result in reward and the reward is desirable. Goal-Setting Theory (Locke & Latham, 1990) also adds that clear, specific and challenging goals increase motivation when paired with sufficient feedback. Classical theories are still applied in contemporary construction management studies, in the design of incentive systems and evaluation of employee performance.

Funsho, Sammy, and Gerryshom (2016) noted that productivity in the Nigerian construction industry is poor as a result of the poor motivation of workers. Aina and Omoniyi (2014) noted that the quest for improving productivity in the construction sector has necessitated the application of motivation theories. Lam and Tang (2003), Barg, Ruparathna, Mendis, & Hewage (2014), and Aina and Omoniyi (2014) identified ten theories commonly applied in the construction sector. These theories have been categorized by Lam & Tang (2003) as needs-based, process-based, or reinforcement-based. Olomolaiye and Price (1989) categorized them into conceptual and empirical theories. Aina and Omoniyi (2014) noted that the theories are generally classified into content-based, or process-based. The content theory focuses on the inner attributes of an individual that drives his behaviour towards the achievement of a goal while process theories are objective and empirical and focus on how behaviour is sustained (Aina and Omoniyi 2014; Lam

& Tang 2003). Detail of the theories can be found in Robbin, Coulter, & DeCenzo (2016). Researches have been conducted into the application of motivational theories to improve productivity.

Incentive Schemes

Incentives, when properly employed, can stimulate workers, support, and help achieve the goals and objectives of an organisation (Ogwueleka, 2014). Incentives are the internal psychological process or internal power that is guided by the goal or objective to stimulate and maintain individual activities (Locke, 1968). Barg et al (2014) identified relevant worker incentives (both intrinsic and extrinsic) and improved management practices as the most important factors to consider when motivating construction workers. Fagbenle (2009) and Abdussalam, Faki & Abdulazeez (2012), identified financial and non-financial schemes as the predominant classes of schemes used in Nigeria. Financial incentives (FI) are monetary inducements that motivate workers or organisations towards the achievement of set objectives in anticipation of monetary benefits (Abdussalam et al, 2012; Ogweleka & Maritz, 2013). Sasanka (2017) researched FIs as a potent weapon for achieving higher productivity. He found the major cause of low productivity to be the employees that are demotivated due to low incentive earnings. After some revisions to the existing incentive schemes, productivity was significantly enhanced by 39% within a year. Rose and Manley (2011) researched motivation toward financial incentive goals on construction projects by investigating four mega projects in Australia. They suggested that financial incentives would aid in maximizing the initiative of contractors in a project. FIs have been popular because they immediately impact worker behavior.

However, they tend to lose their motivational impact over time and are often challenging to implement fairly in project-based environments (Fagbenle et al., 2014; Sang et al., 2022). Fagbenle et al (2014) concluded that FIs may not yield the desired motivation. Non-financial incentives (NFI) on the other hand targets the psychological improvement of an employee by boosting his morale through recognition (Armstrong, 2010). A major issue with the NFIs is that it requires an understanding of how best an employee should be motivated given that different individuals are best motivated through different means. The identification of best motivators is often a complex process as they vary with individuals and circumstances as such requires the conduct of continuous research (Abdulsalam et al 2012). NFIs, although not providing direct monetary rewards, cater to higher-order motivational needs and have been linked to enhance employee commitment, satisfaction, and retention.

Semi-Financial Incentive Schemes (SFIS)

Semi-Financial Incentive Schemes (SFIS) are a combination of financial and non-financial incentives. These schemes offer employees tangible benefits that carry economic value but are not direct wage payments. Examples are training and development, health insurance, transportation support, subsidized medical services, educational sponsorship, housing loans and soft loan schemes. Such incentives improve employee welfare, organisational commitment and project performance (Ogwueleka & Maritz, 2014). Fagbenle et al. (2014) found that SFIS has satisfactory motivational effects in the Nigerian construction industry, which are comparable to or even better

than those obtained through purely financial incentives. Recent studies in construction management have revealed a rising interest in these kinds of incentives that are consistently associated with improved productivity and project performance (Cheung, 2025). SFIs have been identified to include: Education and Training (Sung & Choi, 2014; Tabassi, Ramli, & Bakar, 2012; Rose & Manley, 2011); Free/Subsidized Medical Service (Artz, 2010; Armstrong & Taylor, 2023); Soft Loan Availability (Artz, 2010; Dessler, 2020); Electronic Items (Mobile Phones, Cameras, etc.) (Jeffrey, 2009); Provision of Insurance Scheme (Artz, 2010; Armstrong & Taylor, 2023); Subsidized Meal Ticket (Artz, 2010; Armstrong & Taylor, 2023); Outstation Allowance (PMI, 2021; Rose & Manley, 2011); Paid Vacation Trip (Artz, 2010); Free/Subsidized Transport Services (Ameh & Shokumbi, 2013; Artz, 2010); Staff Children's Scholarship Scheme (Artz, 2010; Dessler, 2020); Professional Software (AutoCAD, Revit, Primavera, Microsoft Project, etc.) (Tabassi et al., 2012; PMI, 2021); End-of-Year/Periodic Cocktail or Staff Social Events (Schein & Schein, 2021; Edmondson); Provision of a Positive Social Work Environment (Rose & Manley, 2011; Tabassi et al., 2012); and Entertainment Allowance (Armstrong & Taylor, 2023).

Incentive Schemes and Organisational Performance

Successful construction project delivery depends on achieving objectives relating to cost, time, quality, productivity, and safety. According to Allison & Jennifer (2010), an effective pay-for-performance system resolves organisational problems as it harmonises organisational preference

with that of employees, attracts the most capable employees, and significantly improves productivity. They further noted that organisations that switch from fixed salaries to individual incentives have dramatically improved productivity by about 44%. Meng and Gallagher (2012) researched the impact of incentive schemes on project performance by using questionnaires and case studies. They concluded that performance is better in projects with incentives than those without. This result was supported by the study of Suprpto et al. (2016) who assessed how types of contracts and incentives affect project performance by using partial least square structural equation modeling to analyze 113 capital projects. They also concluded that incentives lead to achieving better performance. Liu and Ma (2020) noted that much literature has provided evidence that incentive schemes promote success in project delivery. Mirghani (2019) conducted research based on a case study of using financial incentives as promoters of motivation and commitment. However, Rose and Manley (2011) concluded that financial incentives were less important to motivation and performance than relationship enhancement initiatives. Deng and Smith (2013) identified four perspectives to performance measurement to include conceptual, practical, benchmarking, and empirical approaches. James (2005), identified the categories of performance measures to include return on investment, productivity, quality, cost performance, schedule performance, customer satisfaction, cycle-time, requirement performance, and alignment to strategic business goals. Deng and Smith (2013) identified the performance indicators used in the construction industry which were further categorized into subjective and objective indicators

depending on how they are assessed. more recent studies show that properly designed incentive systems improve employee commitment, organisational performance, project efficiency and construction outcomes. Comprehensive incentive programs that include financial, semi-financial and non-financial elements have been associated with lower staff turnover, higher productivity and improved project quality outcomes. Recent reviews also show that construction incentivisation has shifted to integrated incentive strategies involving financial, behavioural, safety and welfare related incentives to improve project performance (Cheung, 2025).

The thirty-six performance criteria have been identified and categorised around six domains that reflect the view of construction project performance. Financial performance criteria include profitability, reduction of time-to-market, project turnover and revenue growth (Luu et al., 2008; Ofori-Kuragu et al., 2016). Project process performance criteria include productivity, reduced rework, expedited construction, and improved quality of work (Love & Li, 2000; Leong et al., 2014). Customer/quality performance criteria include: product quality, customer relationship and retention, minimised defects, mutual trust, minimised product failure, and reduced complaints (Cheung & Ma, 2025; Abdul-Rahman et al., 2014). Performance criteria of time and cost include: scheduling, timely completion, on-budget completion, regular progress and cost control (Olawale & Sun, 2010; Kaming et al., 1997). Employee performance criteria include: motivation, workplace relationships, accident and absenteeism reduction and productivity (Bowen et al., 2014; Haslam et al., 2005; Sahadi & Sriyono, 2022; Hewage & Ruwanpura, 2006). Finally, overall organisational performance criteria

include: cost saving, team motivation, benchmarking, new-idea implementation, successful completion, and achievement of goals and objectives (Takim & Akintoye, 2002; Chan & Chan, 2004).

METHODOLOGY

This study adopted a quantitative research design using a structured questionnaire survey to collect data from management and technical staff of medium and large-scale construction firms in Nigeria. The population of the study is tax compliant medium and large-scale construction firms in Abuja. The justification for selecting medium and large firms is due to the fact that, medium and large-scale construction firms engage a large number of workers where motivation is crucial to their success. Company classification was achieved based on annual tax returns and turnover as obtained from the Federal Inland Revenue Service (FIRS). According to FIRS, in 2024, there are 129 medium and 71 large tax compliant construction firms in Abuja. This can be confirmed in a study by Ismail 2024, who also adopted 200 as population for medium and large construction firms in Abuja. A sample size of 116 was computed using Glenn (1992) formula at 90% confidence level, 5% margin of error and 50% population proportion. 10% was added to account for incomplete responses. The sampling frame of the study is therefore 128 medium and large construction firms. Using quota sampling a proportion of 64% medium firms and 36% large firms was computed to give a sampling frame of 83 medium firms and 45 large firms. The units of analysis are the management and technical staff of the construction firms. Two (2) sets of structured questionnaires were distributed to each firm, one for management staff and the other for technical staff.

Structured questionnaire was used to solicit data from the respondents. The questionnaire was designed in three sections, A, B, and C. Section A solicit information regarding the demography of the respondents such as size of firm, profession/trade, years of experience. Section B solicited information regarding the significance of SFIS in improving construction projects' performance using a 5-point Likert scale where 1= not significant, 2= fairly significant, 3= moderately significant, 4= significant and 5= highly significant (Table 1 & 2). Section C of the questionnaire solicited information regarding the effects of SFIS on performance of construction projects using a 5-point Likert scale where 1= very low effect, 2= low effect, 3= moderate effect 4= high effect and 5= very high effect (Table 3).

A total of 256 questionnaires were administered. Out of which 250 questionnaires were used for the analysis. The data were analysed using IBM SPSS Statistics 20.0. Descriptive statistics including means and standard deviations were used for the analysis.

RESULTS AND DISCUSSION

Demography of the Respondents

All the respondents under the technical staff are general foremen. 66% of the respondents have more than 12 years of working experience which indicates that they have the required level of experience to adequately respond to the questionnaire. The respondents from the management staff are architects, engineers, quantity surveyors, and builders. 38% of the respondents have 10-15 years of working experience and 32% have above 15 years of working experience indicating that they have gained sufficient experience and exposure to contribute positively to the subject matter.

Perception of Technical and Management Staff on the Significance of SFIS

Table 1 shows the ranking of SFIs from medium firms, large firms and combined. Table 1 shows the SFIs that have the highest motivational weight as perceived by technical staff of medium and large firms. From the five-point likert scale of the study, scores ranging from 4.45 to 5.00 are highly significant while scores ranging from 2.45 to 3.44 are moderately significant. The combined figures show that free/subsidized medical service (4.64) and education and training (4.57) are the first two, all of which fall within highly significant SFIs. Soft loan availability (4.24) and provision of insurance scheme (4.17) are next, all of which fall within significant SFIs. This supports the trend observed independently in the medium and large firm separately, where these same items dominated the top of each individual ranking. This supports the conclusion that technical staff consistently value SFIS that address direct personal welfare, financial security and skills development above and beyond other categories of incentive (Sung & Choi, 2014; Tabassi, Ramli, & Bakar, 2012).

At the bottom end of the overall ranking, end of year/periodic cocktail (3.31), entertainment allowance (3.32) and provision of social environment (3.38) are moderately significant. These are incentives that Fagbenle, Amusan and Adeosun (2014) described as social or relationship oriented. Their consistently average combined standing suggests that technical staff perceive them as supplementary and not core to their motivation. It is also interesting to see that when both medium and large firms' perspectives are combined, some of the differences in ranking that emerge when they are considered separately tend to

disappear. For example, outstation allowance and staff children's scholarship scheme come together closer when averaged even when the two firm categories rated them very differently on their own. It indicates some convergence in overall technical staff priorities once

firm size is not treated as a dividing factor. This convergence is consistent with the theoretical position that incentives with monetary and non-monetary attributes can fulfil welfare-related motivational needs in a variety of organisational settings (Ogwueleka & Maritz, 2014).

Table 1: Perception of Technical Staff on the Significance of SFIS

S/N	Semi-Financial Incentives	Medium Firms			Large Firms			Combined		
		M	SD	R	M	SD	R	AM	ASD	OR
1	Education and Training	4.89	0.31	1	4.24	1.15	3	4.57	0.73	2
2	Free/subsidized medical service	4.73	0.45	2	4.54	0.65	1	4.64	0.55	1
3	Soft Loan Availability	4.57	0.68	3	3.90	1.27	5	4.24	0.98	3
4	Electronic items (mobile phones, cameras, etc.)	4.13	0.89	4	3.60	1.39	7	3.87	1.14	6
5	Provision of Insurance scheme	4.04	0.74	5	4.30	1.13	2	4.17	0.94	4
6	Subsidized meal ticket	4.03	0.66	6	3.30	1.02	11	3.67	0.84	8
7	Outstation allowance	4.01	0.88	7	4.04	1.23	4	4.03	1.06	5
8	Paid up vacation trip	4.00	1.27	8	2.80	1.07	14	3.40	1.17	10
9	Free/subsidized transport services	3.80	0.87	9	3.46	1.39	8	3.63	1.13	9
10	Staff Children's scholarship scheme	3.77	1.18	10	3.02	1.15	13	3.40	1.17	11
11	Software's (AutoCAD, Revit, etc.)	3.67	1.23	11	3.70	1.27	6	3.69	1.25	7
12	End of the year/periodic cocktail	3.57	1.20	12	3.04	1.18	12	3.31	1.19	14
13	Provision of social environment	3.32	1.25	13	3.44	1.25	9	3.38	1.25	12
14	Entertainment allowance	3.25	1.35	14	3.38	1.07	10	3.32	1.21	13

Legend: M=Mean, SD=Standard deviation, R=Rank, AM=Average Mean, ASD=Average Standard deviation, OR=Overall Rank.

Table 2 shows a slightly different ranking for management staff compared to technical staff, but the same core group of incentives still remains in the highly significant category. Education and Training (4.67) remain at the top, followed by a close second between provision of Insurance Scheme and Free/Subsidized Medical Service, both averaging 4.52, and Soft Loan Availability (4.49) and Staff Children's Scholarship Scheme (4.37). This pattern supports the earlier finding that incentives that lessen the personal financial burdens outside the workplace, such as insurance cover and scholarship support for dependants, in addition to training opportunities (Artz, 2010; Dessler, 2020), are especially important for management staff, unlike technical

staff. The combined figures also resolve an ambiguity in the two separate columns for medium and large firms. Medium firms ranked provision of insurance scheme and free/subsidized medical service differently (2nd and 3rd respectively) while large firms ranked them (5th and 3rd respectively). The combined average mean scores for both incentives are virtually the same at 4.52, indicating that management of both medium and large firms perceive that the two incentives are of equal overall importance, although the rankings by individual firm-size differed. At the bottom end, the end of year/periodic cocktail (3.42) continues to be the least valued SFI overall, in the moderately significant range. This is consistent with its position near the bottom of the medium

and large firm rankings. As a whole, the combined table supports the earlier observation that management staff tend to attach the greatest motivational value to SFIs that concentrate on employee welfare

and financial protection, whereas incentives that are purely social or recreational are perceived as being relatively less important (Armstrong & Taylor, 2023).

Table 2: Perception of Management Staff on the Importance of SFIS

S/N	Semi-Financial Incentives	Medium Firms			Large Firms			Combined		
		M	SD	R	M	SD	R	AM	ASD	OR
1	Education and Training	4.77	0.42	1	4.56	0.61	1	4.67	0.52	1
2	Provision of Insurance scheme	4.60	0.49	2	4.44	0.86	5	4.52	0.68	2
3	Free/subsidized medical service	4.52	0.50	3	4.52	0.71	3	4.52	0.61	2
4	Soft Loan Availability	4.48	0.60	4	4.50	0.51	4	4.49	0.56	4
5	Staff Children's scholarship scheme	4.21	0.95	5	4.52	0.86	2	4.37	0.91	5
6	Paid up vacation trip	4.19	0.94	6	4.04	1.01	9	4.12	0.98	8
7	Outstation allowance	4.16	0.95	7	4.30	1.04	6	4.23	1.00	6
8	Software's (AutoCAD, Revit, etc.)	4.12	0.97	8	4.14	0.81	8	4.13	0.89	7
9	Electronic items (mobile phones, cameras, etc.)	3.88	1.52	9	4.16	1.38	7	4.02	1.45	9
10	Provision of social environment	3.80	1.05	10	3.70	0.93	12	3.75	0.99	10
11	Free/subsidized transport services	3.63	0.94	11	3.68	1.02	13	3.66	0.98	13
12	Subsidized meal ticket	3.59	0.97	12	3.82	0.94	11	3.71	0.96	11
13	Entertainment allowance	3.36	1.07	13	3.96	1.20	10	3.66	1.14	12
14	End of the year/periodic cocktail	3.28	1.10	14	3.56	1.25	14	3.42	1.18	14

Legend: M=Mean, SD=Standard deviation, R=Rank, AM=Average Mean, ASD=Average Standard deviation, OR=Overall Rank

Management's perception of the effects of SFIS on construction project performance

The mean scores from the medium and large construction firms are presented in Table 3 and aggregated into an average mean (AM) for each performance criterion. All thirty-four criteria are then ranked together to produce a final rank (FR). This integrated perspective allows to identify in one ranking which project performance outcomes are perceived to benefit most from SFIS irrespective of the firm size. Using the five-point interpretation scale of effect for the study, where combined mean scores of 4.45-5.00 indicated very high effect, 3.45-4.44 high effect and 2.45-3.44 moderate effect, seventeen of the thirty-four criteria scored in the very high effect range and the remaining seventeen scored in the high

effect range. There were no criteria with a combined effect of moderate or low. This suggests that, overall, medium and large firms consider SFIS to be consistently highly influential to the performance of construction projects.

Based on the combined ranking, achievement of goals and objectives (F6) has the highest average mean of 4.55, followed by improved customer retention (C4) with 4.49, better customer relationship (C2) with 4.45 and minimised defects (C3) with 4.38. All four criteria are in the very high effect range. This pattern lends support to the earlier discussion under Table 3 which had already identified goal achievement and customer relationship outcomes as the criteria most consistently favoured by both firm categories, and confirms that SFIs are perceived by management to operate as

primarily relational and motivational levers rather than as direct financial instruments (Fagbenle, Adeyemi, & Adesanya, 2004). The strong combined standing of increase in productivity (B1, 4.34) and improved quality of work (B4, 4.30) further shows that, when averaged across firm size, the process-related benefits of SFIS are almost as strongly perceived as the customer and goal-related benefits. This finding is consistent with the view that incentive schemes translate into operational efficiency when supported by formalised production systems (Enshassi, Mohamed, & Abushaban, 2009; Leong, Zakaria, Majid, & Beng, 2014). At the bottom of the combined ranking is increase in profitability (A1) with the lowest average mean of 3.56 followed by

substantial cost saving (F1) with 3.80 and reduced employee absenteeism (E7) with 3.88. Although these criteria still belong to the high effect band, their relatively lower combined standing points to the SFIS being perceived to have a weaker influence on direct financial and absenteeism-related outcomes than on relational and process-related outcomes. This is in line with the view that non-financial and semi-financial mechanisms motivate construction workers mainly through behavioural rather than direct monetary channels (Fagbenle, Adeyemi, & Adesanya, 2004). This corroborates the conclusion already drawn from the separate medium and large firm columns that direct cost-saving measures benefit the least from SFIS.

Table 3 Effects of SFIs on Construction Project Performance

S/N	Project Performance Criteria	Medium Firms			Large Firms			Combined	
		M	R	OR	M	R	OR	AM	FR
A. Financial Performance									
A1	Increase in profitability	4.13	3	22	3.00	4	34	3.56	34
A2	Time to market reduction	4.00	4	29	4.02	3	27	4.01	31
A3	Increase in project turnover	4.36	2	8	4.14	1	21	4.25	13
A4	Increased revenue growth	4.43	1	4	4.12	2	23	4.28	8
	Average Mean	4.23			3.82			4.03	(6)
B. Project Process Performance									
B1	Increase in productivity	4.32	1	10	4.36	2	6	4.34	5
B2	Reduced rework	3.89	4	32	4.24	4	14	4.07	26
B3	Expedite construction work	4.11	3	25	4.34	3	7	4.22	16
B4	Improved quality of work	4.20	2	16	4.40	1	5	4.30	6
	Average Mean	4.13			4.34			4.23	(2)
C. Customer/Quality Performance									
C1	Satisfactory product quality	4.31	3	11	4.06	7	25	4.18	20
C2	Better customer relationship	4.45	1	3	4.44	2	3	4.45	3
C3	Minimised defects	4.31	3	11	4.44	2	3	4.38	4
C4	Improved customer retention	4.47	2	2	4.52	1	2	4.49	2
C5	Reduced process errors	4.23	5	15	4.28	5	10	4.26	11
C6	Improved mutual trust between parties	4.11	7	25	4.20	6	15	4.16	22
C7	Minimized product failure	4.01	8	28	4.06	7	25	4.04	28
C8	Minimized customer complaints	4.16	6	20	4.30	4	9	4.23	15
	Average Mean	4.26			4.29			4.28	(1)
D. Time and Cost Performance									
D1	Better activities schedule	4.27	1	14	4.28	2	10	4.28	8
D2	Timely completion	4.04	4	27	4.32	1	8	4.18	20
D3	Regular progress	4.20	3	16	4.28	2	10	4.24	14
D4	On budget completion	3.91	5	30	4.16	5	20	4.04	28
D5	Efficient cost control	4.17	2	19	4.20	4	15	4.19	19

S/N	Project Performance Criteria	Medium Firms			Large Firms			Combined	
		M	R	OR	M	R	OR	AM	FR
	<i>Average Mean</i>	4.12			4.25			4.19	(3)
E. Employee Performance									
E1	Better employee satisfaction	4.20	4	16	4.00	5	29	4.10	25
E2	Reduced employee turnover	4.13	6	22	4.08	3	24	4.11	24
E3	Improved employee productivity	4.40	2	6	4.02	4	27	4.21	17
E4	Better employee motivation	4.41	1	5	3.98	6	30	4.20	18
E5	Increase workplace relationship	4.28	3	13	4.28	1	10	4.28	8
E6	Reduced accident rate among employees	4.16	5	20	4.14	2	21	4.15	23
E7	Reduced employee absenteeism	3.85	7	33	3.90	7	32	3.88	32
	<i>Average Mean</i>	4.20			4.06			4.13	(5)
F. Overall Organisational Performance									
F1	Substantial cost saving	3.76	6	34	3.84	6	33	3.80	33
F2	Motivation of teams	4.13	4	22	3.96	6	31	4.04	28
F3	Benchmarking data within and outside the industry	3.91	5	30	4.20	2	15	4.05	27
F4	Increase implementation of new ideas	4.35	3	9	4.18	4	19	4.26	11
F5	Successful completion of project	4.39	2	7	4.20	2	15	4.29	7
F6	Achievement of goals and objectives	4.53	1	1	4.58	1	1	4.55	1
	<i>Average Mean</i>	4.18			4.16			4.17	(4)

Legend: M = Mean, R = Category Rank, OR = Overall Rank (within firm size, across all 34 criteria), AM = Combined Average Mean (Medium and Large Firms), FR = Final Rank (based on combined average mean, across all 34 criteria). Figures in parentheses in the Average Mean rows denote the final rank of the category based on its combined average mean.

CONCLUSION

This study evaluated the effect of SFIS on the performance of construction projects of medium and large construction firms in Nigeria. The findings indicate that SFIS are important in enhancing employee motivation and project performance. Soft loans, education and training, free or subsidized medical services, and staff welfare-related incentives were consistently ranked as the most influential SFIS to both technical and management staff. When the perceived impact of SFIs on project performance is analyzed in combination for medium and large firms, the combined ranking confirms that the strongest perceptions of effects relate to goal achievement, customer relationships and process efficiency. While the comparatively weaker perceptions relate to direct financial and cost-saving outcomes. The performance criteria by which SFIs are turned into value differ between medium and large firms.

Combining the two firm categories, customer and quality-related outcomes and process-related outcomes are the areas of performance most strongly associated with SFI schemes. Financial outcomes remain the area least strongly associated with these incentives. These findings demonstrate that incentives with combined monetary and non-monetary attributes can satisfy both welfare and performance related motivational needs to the extent that schemes that are exclusively financial or non-financial cannot (Ogwueleka & Maritz, 2014). The findings suggest that SFIS offer construction organizations a viable and cost-sensitive alternative to maintain workforce motivation, without relying entirely on volatile financial incentive mechanisms. Construction firms are encouraged to prioritize SFIs that cover welfare, financial security and skills development like education and training, medical assistance, soft loans and insurance cover since these are

consistently valued across staff categories and firm sizes. Firms should also be aware that SFIS are likely to provide their greatest perceived benefits in the area of stakeholder relationships, product and service quality and goal achievement and should therefore design and communicate incentive schemes to focus on these

outcomes. Therefore, construction organizations of either size can adopt the same set of high ranking SFIS but still pay attention to firm specific performance priorities. Future work can build on this study by exploring SFIS in small-scale construction firms.

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