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LABOUR RELATIONS AND CONSTRUCTION CRAFTSMEN PRODUCTIVITY IN ABUJA, NIGERIA

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Abstract:
The pervasive labour exploitation in Nigeria is affecting labour productivity, resulting in poor performance of construction projects. Hence, this study investigates the effect of labour relations on the productivity of construction craftsmen in Abuja, Nigeria, with a view to improving project performance. The study adopted a quantitative approach using exploratory and descriptive methods. The study had a sample frame of 250 construction professionals; 155 questionnaires were conveniently administered, yielding a 94.83% response rate. Data were subjected to descriptive and inferential statistics. Twenty-two drivers of craftsmen-employer cordiality were identified; adherence to statutory daily breaks and craftsmen commitment to their duties were ranked very important (4.50-5.00) drivers, while mutual respect between craftsmen & employer, the right to join trade unions, access to pension benefits, effective reward & promotion schemes, and others were ranked as important drivers (3.50-4.49). Availability of tools & equipment for craftsmen's tasks and avoiding craftsmen fatigue by curtailing overtime were ranked as very effective (4.50-5.00) factors that enhance craftsmen's productivity. Assurance of job security, avoiding shortages and late supply of materials, clarity in craftsmen's work specifications, craftsmen's comprehension of the adopted construction method, cordiality among the project workforce, and others were ranked as effective (3.50-4.49). Moreover, drivers of craftsmen-employer cordiality have a significant positive effect on construction craftsmen's productivity ($\rho = 0.726$, $p < 0.01$), explaining approximately 52.71% of the variation in productivity. The study recommends adherence to drivers of craftsmen-employer cordiality, with emphasis on the two most important drivers, and promotes factors that enhance craftsmen's productivity, with attention to the two most effective factors.
***Keywords*:** Cordiality, Craftsmen-employer, labour relations, productivity

1.0 INTRODUCTION

The construction industry remains one of the most labour-intensive sectors globally and contributes significantly to economic development, employment generation, and infrastructural growth. Previous studies have consistently reported that labour productivity remains one of the most critical determinants of project success and organisational competitiveness within the construction industry (Naoum, 2015; Rathnayake & Middleton, 2023). In developing countries such as Nigeria, the construction industry plays a strategic role in national development by delivering housing, transportation systems, commercial buildings, and public

infrastructure. However, poor labour productivity remains a persistent challenge affecting project delivery, construction cost, time performance, and overall project quality (Usman et al., 2024).

Construction productivity is strongly influenced by the nature of labour-management relationships existing within project environments. Effective labour relations improve workers' morale, trust, communication, commitment, and cooperation, thereby creating favourable conditions for enhanced productivity and project performance (Ajay and Anandan, 2023). Conversely, poor labour relations often lead to labour disputes, absenteeism, dissatisfaction, low morale, workplace conflicts, and reduced productivity (Ogundele and Majekodunmi, 2024).

In Nigeria, labour exploitation, poor remuneration, weak occupational safety practices, delayed wage payments, and inadequate welfare provisions continue to affect construction craftsmen adversely. Construction projects in northern Nigeria continue to experience workforce and project delivery challenges that adversely affect productivity and labour management practices (Shehu et al., 2019). These challenges contribute significantly to poor productivity and underperformance in construction projects (Okezie and Kuroakegha, 2025; Olughu et al., 2025). Construction craftsmen, including masons, carpenters, steel fixers, electricians, plumbers, and tilers, are central to the successful execution of construction activities. Consequently, cordial relationships between employers and craftsmen are essential for improving construction performance and achieving organisational objectives.

Several studies have investigated labour productivity within the construction industry. However, limited studies have specifically examined the effects of labour relations and cordiality between craftsmen and employers on craftsmen's productivity in the Nigerian construction context (Van Tam et al., 2021). Existing studies have focused mainly on productivity factors, workforce management, occupational safety, and project performance, without adequately addressing labour cordiality as a critical determinant of productivity (Pimpong, 2023).

Contemporary studies emphasised the growing importance of employee wellbeing, workforce engagement, occupational health and safety, and labour-management collaboration in improving productivity in construction projects (Dumitriu et al., 2025; Huynh et al., 2025; Rani et al., 2022). In addition, post-COVID-19 construction management studies have further highlighted the need for improved workforce welfare and labour sustainability strategies to enhance construction productivity and resilience.

Therefore, this study investigates the effect of labour relations on the productivity of construction craftsmen in Abuja, Nigeria, with a view to improving project performance. In this light, the study outlined the following objectives:

i. To assess the drivers of cordiality between craftsmen and employers in Abuja, Nigeria.
ii. To assess factors that enhance the productivity of craftsmen in Abuja, Nigeria.
iii. To determine the effect of the drivers of craftsmen-employer cordiality on craftsmen's productivity in Abuja, Nigeria.

The study tests the following hypotheses on the corresponding aforementioned objectives:

i. There is no statistically significant difference in the mean rankings of the two groups of respondents regarding the drivers of craftsmen-employer cordiality in Abuja, Nigeria.
ii. There is no statistically significant difference in the mean rankings of the

two groups of respondents for the factors that enhance craftsmen's productivity in Abuja, Nigeria.

iii. Drivers of cordiality between craftsmen and employers do not affect craftsmen's productivity in Abuja, Nigeria.

2.0 LITERATURE REVIEW

2.1 Theoretical Construct

This study is anchored on Herzberg's Two-Factor Theory, developed by Frederick Herzberg in 1959. The theory explains that two major categories of factors influence employee motivation and productivity: hygiene factors and motivator factors. Hygiene factors include salary, job security, working conditions, organisational policies, and interpersonal relationships, while motivators include recognition, achievement, responsibility, growth, and advancement. Several studies have validated Herzberg's theory in contemporary work environments and demonstrated its relevance in explaining employee motivation and workplace productivity (Yusoff et al., 2013; Lim & Ahmad, 2021).

According to Herzberg's theory, poor hygiene factors result in dissatisfaction among workers, whereas strong motivator factors improve morale and productivity. In construction project environments, cordial labour relations, occupational safety, welfare provisions, adequate remuneration, and effective communication serve as important hygiene factors that influence craftsmen's productivity.

Recent studies have applied Herzberg's Two-Factor Theory to explain workforce motivation, job satisfaction, and productivity in construction environments. Employee welfare provisions, organisational support, occupational health and safety practices, recognition, and opportunities for professional development have been identified as significant factors influencing construction workers' engagement and productivity (Wokoma and Obasi, 2023; Juba, 2024). Similarly, labour-management cooperation, effective communication, and workplace motivation have been found to positively influence workforce performance and project outcomes in the construction industry (Rajhans, 2012). The theory is therefore suitable for this study because it explains how cordial labour relations and welfare practices can improve craftsmen's productivity and overall project performance.

Labour productivity refers to the efficiency with which labour inputs are converted into construction outputs. Productivity improvement remains a major concern in construction management because labour accounts for a substantial proportion of total project costs and significantly influences project performance, profitability, and competitiveness (Huynh et al., 2025). Construction productivity has been extensively investigated in both developed and developing countries, with management practices, supervision, and workforce motivation identified as major determinants (Naoum, 2015; Elazzazy, 2020; Rathnayake & Middleton, 2023). In developing countries, low labour productivity is often associated with poor working conditions, inadequate welfare provisions, ineffective supervision, labour disputes, and weak occupational health and safety practices (Odesola and Idoro, 2014). Consequently, improving labour productivity has become a strategic priority for construction organisations seeking to enhance project delivery and operational efficiency.

Labour productivity in construction is influenced by multiple organisational, managerial, and worker-related factors, including motivation, supervision quality, occupational safety, work environment, remuneration, communication, and management practices (Jian et al., 2025; Huynh et al., 2025). Recent evidence further

demonstrates that employee wellbeing, workforce engagement, welfare provisions, and effective safety management significantly enhance productivity and overall project performance in construction organisations (Juba, 2024). Construction productivity directly affects project cost, duration, profitability, and quality.

Recent studies have emphasised the importance of labour welfare, organisational culture, workforce engagement, occupational health and safety practices, and effective management systems in improving construction productivity (Rani et al., 2022; Wong et al., 2023; Jian et al., 2025). In Nigeria, low labour productivity has been associated with poor working conditions, labour exploitation, inadequate supervision, insufficient welfare facilities, delayed material supply, limited training opportunities, and weak labour-management relationships (Hamza et al., 2022; Odesola and Idoro, 2014). These challenges continue to undermine workforce efficiency and construction project performance.

2.2 Nature of Craftsmen Employment in Nigeria

Construction craftsmen may be employed through formal or informal labour arrangements depending on the nature of construction projects and organisational employment policies. Formal employment generally offers workers contractual security, legal protection, pension benefits, insurance coverage, occupational safety provisions, and access to welfare programmes. Conversely, informal employment is frequently associated with precarious working conditions, irregular remuneration, limited social protection, and weak regulatory oversight. The International Labour Organization (ILO, 2022) reported that informal employment continues to dominate labour markets in many developing countries, particularly within labour-intensive sectors such as construction. In Nigeria, the widespread reliance on informal construction labour exposes craftsmen to occupational risks, job insecurity, inadequate welfare provisions, and limited opportunities for career development, thereby affecting productivity and overall project performance (Ozigbo et al., 2025).

Recent studies have further shown that improving employment conditions, social protection systems, and occupational safety measures significantly enhances craftsmen's productivity and job satisfaction (Ejohwomu et al., 2021).

2.3 Drivers of Craftsmen-Employer Cordiality

Cordiality refers to warm, respectful, cooperative, and professional relationships existing between employers and employees. Positive labour relations are essential for promoting trust, teamwork, communication, and organisational commitment. Employee welfare provisions, organisational justice, and sound human resource management practices have been found to strengthen employee relations and improve organisational performance (Bajaj et al., 2013; Tiwari, 2014; Akanbi & Adebayo, 2021).

Several studies have identified interpersonal relationships, occupational health and safety, employee welfare provisions, organisational justice, effective communication, and continuous training opportunities as critical drivers of cordial labour relations in construction organisations (Ajay and Anandan, 2023; Jian et al., 2025). Such positive labour relations foster trust and cooperation among project stakeholders, reduce workplace conflicts, absenteeism, stress, and employee turnover, and ultimately enhance workers' morale, organisational commitment, and productivity (Rani et al., 2022).

In construction environments, cordial labour relations are particularly important due to the collaborative and labour-intensive nature of

construction activities. The successful execution of construction projects depends heavily on effective interaction among employers, supervisors, and craftsmen. Empirical studies have demonstrated that mutual respect, effective grievance and dispute resolution procedures, prompt payment of wages, reward and recognition systems, occupational health and safety practices, and employee welfare provisions significantly contribute to positive labour-management relationships and workforce commitment (Rajhans, 2012; Ajay and Anandan, 2023; Wong et al., 2023). Such practices foster trust and cooperation among project participants, thereby enhancing morale, reducing workplace conflicts, and improving productivity performance (Rani et al., 2022). Delayed wage payments and labour-related safety concerns have been identified as significant factors affecting workers' welfare and productivity on construction sites (Okoye et al., 2022).

2.4 Factors Enhancing Craftsmen Productivity

Construction craftsmen productivity is influenced by several technical, managerial, environmental, and motivational factors. Attar et al. (2012) identified supervision, labour management, materials availability, communication, safety management, and motivation as key productivity factors. Recent reviews have further emphasised the importance of labour productivity management systems, occupational safety, and welfare practices in enhancing construction productivity (Hamza et al., 2022; Tafese and Mengistu, 2026).

Extant studies have highlighted additional determinants of construction labour productivity, including workforce wellbeing, labour welfare provisions, occupational health and safety management, effective communication systems, and supportive work environments (Rani et al., 2022; Wong et al., 2023). Jian et al. (2025) further reported that the availability of adequate tools and equipment, effective project planning, occupational safety practices, prompt remuneration, and job security significantly improve workforce productivity. Within the Nigerian construction industry, labour productivity remains constrained by delayed material supply, poor supervision, inadequate welfare facilities, insufficient training opportunities, and unfavourable working conditions, all of which adversely affect project performance and workforce efficiency (Odesola and Idoro, 2014).

2.5 Effect of Labour Relations on Craftsmen Productivity

Labour relations involve the interaction between employers and employees regarding rights, responsibilities, communication, welfare, and organisational policies. Effective labour relations promote workers' satisfaction, motivation, and commitment.

Recent empirical studies have consistently reported positive relationships between labour cordiality and workforce productivity. Positive labour-management relationships foster trust, cooperation, communication, and employee commitment, which collectively enhance productivity and project performance (Ajay and Anandan, 2023). Furthermore, organisational support systems, employee welfare provisions, occupational health and safety practices, and workforce engagement have been identified as critical drivers of employee satisfaction and productivity in construction organisations (Rani et al., 2022; Wong et al., 2023).

Similarly, Ejohwomu et al. (2021) observed that occupational safety management, labour welfare, and communication practices significantly influence productivity within construction projects. The reviewed literature therefore suggests that cordial labour relations are critical determinants of

craftsmen productivity and construction project performance.

3.0 METHODOLOGY

3.1 Research Design

This study adopted a quantitative research design using exploratory and descriptive survey approaches. A quantitative research design is appropriate because the study seeks to measure and analyse the relationship between labour relations and craftsmen productivity using statistical techniques. Previous construction management studies have successfully applied quantitative survey methods in investigating labour productivity and workforce management issues (Hamza et al., 2022; Jian et al., 2025). The exploratory approach enabled the study to identify relevant variables from existing literature, while the descriptive survey design facilitated the collection of perception-based data from construction professionals and craftsmen. The use of quantitative survey methods is widely recommended for investigating relationships among measurable variables in social and construction research (Creswell and Creswell, 2018).

3.2 Study Area

The study was conducted in Abuja, Nigeria. Abuja was selected because it hosts significant construction activity and infrastructure development projects, making it one of Nigeria's most active construction hubs.

3.3 Population and Sampling Technique

The study targeted construction professionals and craftsmen involved in construction project management within Abuja. The accessible population consisted of 250 respondents, including architects, builders, engineers, quantity surveyors, construction managers, and construction craftsmen. The sample size of 155 respondents was determined using Krejcie and Morgan's (1970) sample size determination table. A convenience sampling technique was adopted because it facilitated access to experienced and readily available respondents in active construction environments. Similar sampling approaches have been used in previous construction management studies involving industry practitioners (Creswell and Creswell, 2018)

3.4 Data Collection Instrument

Data were collected using a structured questionnaire developed from previous studies on labour relations and construction productivity. The questionnaire consisted of three sections:

Section A: Respondents' demographic information.

Section B: Drivers of craftsmen-employer cordiality.

Section C: Factors enhancing craftsmen productivity.

A five-point Likert scale was adopted because it is suitable for measuring respondents' perceptions and attitudes in social science and construction management research.

3.5 Reliability and Validity of Instrument

The reliability of the questionnaire was assessed using Cronbach's alpha coefficient. The constructs recorded Cronbach's alpha values of 0.806 and 0.891, respectively, indicating good reliability. Content validity was ensured through an extensive literature review and expert assessment. Construct validity was achieved by ensuring that the questionnaire items adequately measured the intended study variables.

3.6 Data Analysis Techniques

Data were analysed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics, including frequencies, percentages, mean scores, and standard deviations, were used to analyse demographic data and respondents' perceptions. Independent sample t-tests were used to

determine differences in respondents' rankings, while Spearman's rank-order correlation analysis was employed to determine the relationship between craftsmen-employer cordiality and craftsmen productivity. Spearman's correlation was considered appropriate because the study variables were ordinal and measured using Likert scales.

4.0 RESULT AND DISCUSSION

4.1 Respondents Profiles

Table 1 shows respondents' demographic profiles. All the respondents are construction professionals who ply their trades in either the public sector (35%) or private sector (65%) of the Nigerian economy. This result fully captures the nature of the Nigerian economy, which is a mixed economy. About 15% of the respondents work in a physical planning unit, a little above 16% work in a maintenance unit, nearly 15% are into consulting, while a little above 19% work in contracting firms. The rest of the respondents work in the company's estate department (slightly over 14%), and as craftsmen (a little over 20%). This result shows that the respondents work in the construction industry. Virtually all the respondents are management staff in their various organisation (91.84%): top management (24.49%), middle management (44.22%), lower management (23.13%), and craftsmen (8.16%). Their highest educational qualification is Certificate (12.24%), National Diploma (ND) (3.40%), Higher National Diploma (HND) (20.41%), Postgraduate Diploma (PGD) (12.93%), Bachelor of Science/Bachelor of Technology degrees (BSc/B.Tech.) (28.57%) and Master of Science (MSc) (22.45%). The respondents' educational specialisations are: Architecture (16.33%), Building (15.65%), Construction management (15.65%), Engineering (17.00%), Quantity surveying (15.65%) and craftsmen (19.72%).

These results show that the respondents are educationally qualified and are mostly core construction professionals involved in the management of construction projects. A little above 8% of the respondents are registered with architects' registration council of Nigeria (ARCON), 18.37% are registered with the council of registered builders of Nigeria (CORBON), 15.65% are registered with the council for the regulation of engineering in Nigeria (COREN), while about 12.93% are registered with the quantity surveyors' registration board of Nigeria (QSRBN), craftsmen are 5% and those that have no registration are 38.77%. This reveals that most of the respondents are professionally certified to practice their respective construction professions and, as such, helps the study ensure that all variables that may influence the accuracy of the data have been analysed. By implication, this ensures that the respondents used for the study are an appropriate sample (Inuwa, Joseph, and Musa, 2019).

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Table 1: Respondents' Demographic Profiles

Economic Sector	**No.**	**%**	**Cumulative %**
Public	51	35	35
Private	96	65	100
Total	147	100	
Unit within the Public /Private sector area of operation	No.	%	Cumulative %
physical planning	22	14.96	14.96
maintenance unit	24	16.33	31.29
consultancy firm	22	14.96	46.25
contracting firm	28	19.05	65.30
company estate department	21	14.29	79.59
Others	30	20.41	100
Total	147	100	
Management level	No.	%	Cumulative %
Top management	36	24.49	24.49
Middle management	65	44.22	68.71
Lower management	34	23.13	91.84
Others	12	8.16	100
Total	147	100	
Educational qualifications	No.	%	Cumulative %
Certificate	18	12.24	12.24
National Diploma	5	3.40	15.64
Higher National Diploma	30	20.41	36.05
Bsc/B.Tech	42	28.57	64.62
PGD	19	12.93	77.55
Msc	33	22.45	100
Total	147	100	
Professional specialisation	No.	%	Cumulative %
Architecture	24	16.33	16.33
Building Technology	23	15.65	31.98
Construction Management	23	15.65	47.63
Quantity Surveying	23	15.65	63.28
Engineering	25	17.00	80.28
Others	29	19.72	100
Total	147	100	
Construction craftsmen supervisor	Yes	57	77
	No	17	23
	Total	74	100
Professional registration	No.	%	Cumulative %
ARCON	13	8.84	8.84
CORBON	27	18.37	27.21
COREN	23	15.65	42.86
QSRBN	19	12.93	55.79

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Economic Sector	No.	%	Cumulative %
No registration	57	38.77	94.56
Others	8	5.44	100
Total	147	100	

4.1.1 Respondents' Work Experience in the Industry

Table 2 shows respondents' work experience in the construction industry. Forty-six per cent of the respondents have 11 years or more of industry experience. Overall, the respondents have an average of nearly 11 years' experience in the construction industry. This result revealed that the respondents are qualified and experienced to respond to an enquiry of this nature.

Table 2: Work Experience of Respondents in the Industry

Work experience (in years)	Mid value	F	% F	FX
Less than 5	5	19	12.93	95
5-10	7.5	60	40.82	450
11-15	13	42	28.57	546
16-20	18	12	8.16	216
Over 20	20	14	9.52	280
Total		147	100	1587

Mean years of experience = $\sum FX/\sum F = 1587/147 = 10.8 \approx 11$ years

4.2 Drivers of Craftsmen-Employer Cordiality

Table 3 presents the respondents' evaluation of the factors that drive cordiality between craftsmen and employers. Respondents ranked adherence to statutory daily breaks and craftsmen's commitment to their duties as very important drivers (4.50-5.00). while mutual respect between craftsmen and employer, the right to join trade unions, access to pension benefits, effective reward and promotion schemes, transportation provisions, collective bargaining rights, the right to strike, respect for organisational authority, proper leave and overtime pay, dispute resolution mechanisms, discipline processes, periodic training, prohibition of gender discrimination, adequate remuneration, health care services, occupational safety management, insurance and compensation for injuries or death, monetary incentives for holidays, and adherence to working hours and weekly holidays were ranked as important factors (3.50-4.49). The analysis further reveals that there is no statistically significant difference in the mean rankings between the two groups of respondents ($p > 0.05$), leading to the acceptance of the null hypothesis. This indicates consensus among respondents regarding the factors that drive cordiality between craftsmen and employers.

The findings revealed that adherence to statutory daily breaks and craftsmen's commitment to duties were the most significant drivers of cordiality between craftsmen and employers. Other important drivers included mutual respect, pension benefits, reward systems, transportation support, collective bargaining rights,

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occupational safety management, dispute resolution mechanisms, and healthcare services. The independent-samples t-test revealed no statistically significant difference in respondents' perceptions of the identified drivers of cordiality ($p > 0.05$). This indicates consensus among respondents concerning the importance of cordial labour-management relationships.

The findings align with recent studies demonstrating that organisational support systems, effective workplace communication, employee welfare provisions, and positive labour-management relationships significantly improve workforce morale, commitment, and interpersonal relationships within construction organisations (Rajhans, 2012; Ajay and Anandan, 2023; Wong et al., 2023; Rani et al., 2022). The findings further support Herzberg's Two-Factor Theory, which emphasises the importance of hygiene factors such as welfare provisions, occupational health and safety practices, remuneration, job security, and interpersonal relationships in reducing employee dissatisfaction and enhancing workforce performance. The results suggest that construction organisations that invest in these factors are more likely to experience improved labour relations, higher productivity, and better project outcomes.

Table 3: Drivers of Craftsmen-Employer Cordiality

SN	Factors	Mean scores		*t-stat*	Lev. Sig	Dec
		Pub. sec.	Priv. Sec			
1	Adherence to the employee's statutory daily working break	4.51	4.50	0.07	0.94	NS
2	Employee's effective commitment to his/her schedule of duty	4.57	4.54	0.20	0.84	NS
3	Employee-employer mutual respect	4.41	4.43	0.11	0.91	NS
4	Employee's right to belong to a trade union	3.76	3.88	0.61	0.55	NS
5	Employee's right to benefits from contributory NS pension scheme	4.27	4.15	0.76	0.45	NS
6	Effective organisation's employee reward promotion scheme	4.37	4.15	1.64	0.10	NS
7	Employer provision of transportation or transport allowance to employees	4.84	4.04	1.24	0.21	NS
8	Right for employee-employer collective bargaining	3.88	4.06	1.13	0.26	NS
9	Employee right to strike to press for their rightful demands	3.88	3.65	1.18	0.24	NS
10	Employee respect for organisation's constituted authority	4.31	4.39	0.44	0.66	NS
11	Honour employee statutory leaves provision & payments	4.37	4.32	0.35	0.72	NS
12	Honour statutory remuneration for employee overtime services	4.25	4.18	0.51	0.61	NS
13	Impartial dispute resolution mechanism	4.24	4.21	0.18	0.86	NS
14	Impartial organisation's discipline mechanism	4.31	4.19	0.76	0.45	NS
15	Periodic employee training for quality service delivery	4.27	4.23	0.29	0.77	NS
16	Prohibition of gender biased discrimination	4.25	4.21	0.27	0.78	NS

SN	Factors	Mean scores		*t-stat*	Lev. Sig	Dec
		Pub. sec.	Priv. Sec			
17	Provision of adequate employee remuneration	4.27	4.29	1.32	0.19	NS
18	Provision of effective employee health care services	4.41	4.39	0.17	0.86	NS
19	Provision of effective occupational safety management	4.41	4.33	0.55	0.58	NS
20	Provision of insurance and compensation for injuries and death	4.25	4.45	1.32	0.19	NS
21	Provision of monetary incentives for statutorily recognised festive periods	3.78	3.79	0.04	0.97	NS
22	Respect for statutory working hours and NS weekly holidays	4.18	4.27	0.61	0.54	NS

4.3 Factors that Enhances Craftsmen Productivity

Table 4 presents respondents' assessment of the factors that enhance construction craftsmen productivity. Availability of tools and equipment for craftsmen tasks and avoiding craftsmen fatigue by curtailing overtime were ranked very effective (4.50-5.00) in enhancing construction craftsmen productivity. While the following factors were ranked effective (3.50-4.49) in enhancing construction craftsmen productivity: assurance of job security, avoiding shortages and delays in material supply, clarity in craftsmen work specification, craftsmen comprehending adopted construction method, cordiality among project workforce, curtail excessive variation during project execution, effective communication in dispatching craftsmen task, effective craftsmen supervision, effective health and safety management practice, effective management of adverse weather condition on project site, effective project planning and scheduling, efficiency of workforce management, minimise risks in craftsmen task execution, periodic training of craftsmen on the industry's dynamism, provide craftsmen with accommodation or rent subsidy, providing free or subsidised meals in site staff canteen, provide social activity opportunities, prompt payment of craftsmen remuneration and other financial entitlements, reduce effects of craftsmen long distance travelling time and reward of hard work and experience through incentives and pay increase. Safety management practices have also been shown to significantly improve workforce productivity and project performance (Wong et al., 2023).Table 4 shows the significance levels of all ranked factors. It revealed that there is no statistically significant difference in the mean rankings of the two groups of respondents ($p>0.05$) for the factors that enhance craftsmen's productivity. Hence, the null hypothesis for Objective 2 was accepted.

This reveals that the respondents agree on the factors that enhance craftsmen's productivity. The findings established that the availability of tools and equipment and the reduction of excessive overtime were the most effective factors enhancing craftsmen's productivity. Other important productivity factors included: job security assurance, effective supervision, prompt remuneration, effective communication, occupational health and safety management, project planning and scheduling, workforce management, periodic training, accommodation support, and reduced travel stress. The t-test analysis further revealed no statistically significant difference in respondents' perceptions regarding productivity-enhancing factors ($p > 0.05$).

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These findings are consistent with the growing body of construction management literature that emphasises the critical role of labour welfare, resource availability, effective supervision, and occupational safety management in improving workforce productivity (Hamza et al., 2022; Jian et al., 2025). The results indicate that construction productivity depends not only on technical skills and project resources but also on organisational practices that enhance workers' welfare, motivation, and commitment. This reinforces the argument that sustainable productivity improvement requires an integrated approach combining effective labour relations, welfare support, and sound management practices.

Table 4: Factors that Enhance Craftsmen Productivity

SN	Factors	Mean scores		*t-stat*	Lev. Sig	Dec
		Pub. sec.	Priv. Sec			
1	Availability of tools and equipment for craftsmen's tasks	4.63	4.64	0.07	0.94	NS
2	Avoid craftsmen fatigue by curtailing overtime	4.08	4.09	0.93	0.93	NS
3	Assurance of job security	4.37	4.26	0.73	0.46	NS
4	Avoid shortage and late supply of materials	4.33	4.52	1.48	0.14	NS
5	Clarity in craftsmen's work specification	4.35	4.33	0.13	0.89	NS
6	Craftsmen's understanding of the adopted construction method	4.31	4.23	0.57	0.57	NS
7	Cordiality among project workforce	4.19	4.17	0.98	0.83	NS
8	Curtail excessive variation during project execution	4.08	4.02	0.11	0.71	NS
9	Effective communication in dispatching craftsmen's tasks	4.24	4.42	0.33	0.18	NS
10	Effective craftsmen supervision	4.37	4.32	0.46	0.75	NS
11	Effective health and safety management practice	4.47	4.31	0.16	0.27	NS
12	Effective management of adverse weather condition on the project site	3.98	3.93	0.41	0.74	NS
13	Effective project planning and scheduling	4.37	4.33	0.28	0.80	NS
14	Efficiency of workforce management	4.15	4.34	0.13	0.19	NS
15	Minimising risks during craftsmen's task execution.	4.09	4.21	0.85	0.48	NS
16	Periodic training of craftsmen on the industry's dynamism	4.09	4.26	0.19	0.27	NS
17	Provide craftsmen with accommodation or rent subsidy	3.69	3.79	0.60	0.58	NS
18	Provide free or subsidise meal in site staff canteen	3.76	3.63	0.34	0.46	NS
19	Provide social activity opportunities, e.g. sports and entertainment	3.55	3.30	0.36	0.23	NS
20	Prompt payment of craftsmen remuneration & other financial entitlements	4.29	4.36	0.82	0.63	NS
21	Reduce the effects of craftsmen long distance travelling time	3.92	3.95	0.46	0.88	NS
22	Reward of hard work and experience through incentives and pay increase	4.33	4.45	0.45	0.47	NS

4.4 Effect of the Drivers of Craftsmen-Employer Cordiality on Craftsmen Productivity

Table 5 shows the result of Spearman's rank order correlation coefficient to determine the relationship between drivers of craftsmen-employer cordiality and construction craftsmen productivity. The drivers of the craftsman-employer cordial relationship (DCECR) are the independent variables, while the dependent variable is the factor enhancing construction craftsmen's productivity (FECCP). The DCECR factors is made of the followings: adherence to craftsmen statutory daily working break (AESDWB), craftsmen effective commitment to his/her schedule of duty (EECSD), craftsmen-employer mutual respect (EEMR), craftsmen right to belong to trade union (ERBTU), craftsmen right to benefits from contributory pension scheme (ERBCPS), effective organisations craftsmen rewards and promotion scheme (EOERPS), employer provision of transportation or transport allowance to craftsmen (EPTTAE), right for craftsmen-employer collective bargaining (REECB), craftsmen right to strike to press for their rightful demands (ERSPRD), craftsmen respect for organisations constituted authority (EROCA), honour craftsmen statutory leave provisions and pay (HESLPP), honour statutory remuneration for craftsmen overtime services (HSREOS), impartial disputes resolution mechanism (IDRM), impartial organisations discipline mechanism (IODM), periodic craftsmen training for quality service delivery (PETQSD), prohibition of gender biased discrimination (PGBD), provision of adequate craftsmen remuneration (PAER), provision of effective craftsmen health care services (PEEHCS), provision of effective occupational safety management (PEOSM), provision of insurance and compensation for injuries and death (PICID), provision of monetary incentives for statutorily recognise festive period (PMISRFP), respect for statutory working hours and weekly holidays (RSWHWH).

The relationship between DCECR and FECCP (as assessed by respondents) was investigated using Spearman's rank-order correlation coefficient (ρ). Preliminary analyses were conducted to ensure that the assumptions of monotonic relationships required for Spearman's rank-order correlation were satisfied. Table 5 shows a positive relationship between the two variables ($\rho = 0.32$-0.49, $n = 147$, $p < .001$), revealing that cordiality between construction craftsmen and employers enhances construction craftsmen's productivity performance. On average, DCECR had a positive effect on FECCP; $\rho = 0.52$, $n = 147$, $\rho < .01$. The corresponding coefficient of determination was 52.71%. This result indicates that drivers of cordiality between craftsmen and employers positively affect craftsmen's productivity. Moreover, the drivers of cordiality between craftsmen and employers have a 52.71% influence on construction craftsmen's productivity. This is because the coefficient of determination is a statistic that measures how much variation in the dependent variable is explained by the independent variable (Pallant, 2020). In view of this result, it is inferred that drivers of cordiality between craftsmen and employers explain 52.71% of the variance in factors that enhance construction craftsmen's productivity. The test on the null hypothesis at a 99% confidence level, which stipulates that drivers of craftsmen-employer cordiality have no effect on craftsmen productivity, was rejected because all the computed ρ values are less than 0.01 ($p<0.01$) (Pallant, 2020).

Spearman's rank-order correlation analysis revealed a strong positive relationship

between craftsmen-employer cordiality and craftsmen productivity ($\rho = 0.726$, $p < 0.01$). The coefficient of determination ($\rho^2 = 0.527$) indicates that approximately 52.71% of the variation in craftsmen productivity is explained by cordial labour relations.The null hypothesis that cordiality between craftsmen and employers has no significant effect on craftsmen's productivity was therefore rejected.

The findings imply that cordial labour relationships significantly enhance construction productivity by improving workers' morale, commitment, communication, trust, and cooperation among project participants. This outcome reinforces the proposition that positive labour-management relations constitute a critical component of effective workforce management in construction projects. The findings are consistent with recent studies that reported significant positive relationships between employee welfare practices, occupational health and safety management, workforce engagement, and productivity performance in construction organisations (Ejohwomu et al., 2021; Rani et al., 2022; Wong et al., 2023). Such evidence suggests that construction firms that invest in labour welfare and healthy workplace relationships are more likely to achieve improved productivity and project outcomes

.

Table 5: Relationship of Factors Enhancing Construction Craftsmen Productivity

Variables		**Inferences**			**Decision**
X (DCEC)	Y (FECCP)	Correlation (ρ)	(ρ^2 x 100)	LS *(p)***	
AESDWB	FECCP	0.41	16.81	0.00	Rejected
EECSD	FECCP	0.48	23.04	0.00	Rejected
EEMR	FECCP	0.49	24,01	0.00	Rejected
ERBTU	FECCP	0.36	12.96	0.00	Rejected
ERBCPS	FECCP	0.36	12.96	0.00	Rejected
EOERPS	FECCP	0.40	16.00	0.00	Rejected
EPTTAE	FECCP	0.36	12.96	0.00	Rejected
REECB	FECCP	0.42	17.64	0.00	Rejected
ERSPRD	FECCP	0.40	16.00	0.00	Rejected
AROCA	FECCP	0.42	17.64	0.00	Rejected
HESLPP	FECCP	0.33	10.89	0.00	Rejected
HSREOS	FECCP	0.42	17.64	0.00	Rejected
IDRM	FECCP	0.40	16.00	0.00	Rejected
IODM	FECCP	0.52	27.04	0.00	Rejected
PETQSD	FECCP	0.37	13.69	0.00	Rejected
PGBD	FECCP	0.32	10.24	0.00	Rejected

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Variables		Inferences			Decision
X (DCEC)	Y (FECCP)	Correlation (ρ)	(ρ^2 x 100)	LS *(p)***	
PAER	FECCP	0.43	18.49	0.00	Rejected
PEEHCS	FECCP	0.44	19,36	0.00	Rejected
PEOSM	FECCP	0.51	26.01	0.00	Rejected
PICID	FECCP	0.43	18.49	0.00	Rejected
PMISRFP	FECCP	0.38	14.44	0.00	Rejected
RSWHWH	FECCP	0.36	12.96	0.00	Rejected
DECCR	FECCP	0.726	52.71	0.00	Rejected

Key: DCEC-Drivers of Craftsmen-Employer cordiality, FECCP-Factors Enhancing Construction Craftsmen Productivity, LS-level of significance, H_0–null hypothesis, **-correlation is significant at the 0.01 level (1-tailed)

CONCLUSION

The study concludes that adherence to statutory daily breaks and craftsmen's commitment to duties are the most important drivers of cordiality between craftsmen and employers in Abuja, Nigeria. Other important drivers include mutual respect, pension benefits, reward systems, occupational safety management, healthcare services, and dispute resolution mechanisms.The study also concludes that the availability of tools and equipment and the reduction of excessive overtime significantly enhance construction craftsmen's productivity. Other important productivity-enhancing factors include effective supervision, prompt remuneration, workforce management, project planning, occupational safety, and job security. The cordiality between craftsmen and employers has a statistically significant positive effect on craftsmen's productivity. The findings indicate that cordial labour relationships account for approximately 52.71% of the variation in craftsmen productivity. The study therefore establishes that effective labour relations are critical for improving construction productivity and project performance in Nigeria.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are proposed:

1. Construction firms should ensure strict adherence to statutory labour welfare provisions, including daily breaks, overtime regulations, healthcare services, and pension schemes.
2. Employers should foster cordial relationships with craftsmen through effective communication, mutual respect, dispute-resolution mechanisms, and participatory management practices.
3. Construction organisations should provide adequate tools and equipment to improve craftsmen's efficiency and productivity.
4. Project managers should minimise excessive overtime to reduce craftsmen fatigue and improve productivity.
5. Government regulatory agencies should strengthen monitoring and enforcement of labour laws within construction projects.

6. Construction firms should organise regular training and development programmes to improve craftsmen skills and productivity.
7. Occupational health and safety practices should be strengthened across construction sites to improve workforce wellbeing and productivity.
8. Future studies should investigate labour relations and productivity across multiple states in Nigeria and explore qualitative dimensions of labour-management relationships.

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