



Human Resources Management Practice and its Challenges in the Construction Firms for an Effective Deliverables

M. L. Yahaya¹, B. Abdulhakeem², M.L Ibrahim³

¹Department of Physical Planning and Development, Usmanu Danfodiyo, University, Sokoto, Nigeria

²Department of Quantity Surveying, Faculty of Environmental Science, Kebbi State University of Science and Technology, Aleiro Birnin Kebbi, Nigeria

³Department of Quantity Surveying, Faculty of Environmental Sciences, Federal University Birnin Kebbi, Kebbi State, Nigeria

Corresponding Author: mohammedlawalyahaya@gmail.com/mohammed.lawal@udusok.edu.ng

ABSTRACT

The construction industry workforce is unique in several ways that encompassing a wide range of role from unskilled labourers to highly skilled professionals. This diversity requires tailored human resource management (HRM) strategies to address the varying needs and expectations of the clients' of the industry. The aim of the study was to evaluate the challenges associated with HRM practice in within the various types of construction firms. Quantitative approach design method was adopted. Questionnaires were administered to 65 respondents using simple random sampling techniques in the study area of Birnin Kebbi North-West Nigeria. Data collected were analyzed using descriptive and inferential statistics. The result highlights that firms working on multiple types of projects experiencing significantly higher challenges. Its further confirm that the difference of challenges among the various firms was not attributed due to chance, but based on statistical evidence with $F(3, 52) = 28.46, P < 0.001$ from the ANOVA test. These findings suggest that the complexity and variety of construction projects have a direct impact on the HRM challenges encountered by construction firms. The study concludes that all categories of construction firms are being faced with various human resource management challenges, but with a higher significantly challenge from firms with a diverse function of construction activities. These challenges underscore the need for construction companies to adopt structured and proactive HRM practices that focus on employee retention, skill development, and safety compliance. Overall, the study contributes to a better understanding of HRM issues within the construction sector.

Key Words: Productivity, Recruitments, Construction Firms, Training, Retention and Performance Management

INTRODUCTION

The construction industry is a crucial sector of the economy that has significant contributed to economic growth, through development of infrastructures, residential houses as well as other essential projects that bolster community development and welfare (Van Vulpen, 2024). The industry has seen different kind of geometric progression both in the developed

and developing countries in the past decades. However, unwarranted challenges, policies deflative and cash-flow crunched were all envisage in the industry that hamper its contribution significantly.

Among such challenges in the industry just to mention a few is effective managing of its workforce. It is worth noting that Human Resource Management (HRM) plays a key



role in any organization and directly influences the success rate of projects deliverables. Surprisingly, research on HRM challenges in the construction industry has not been given serious attention as part of the problems affecting the industry in the 21st century and this has created a knowledge gap which needs to be close by researchers (Ifediora & Keke, 2019).

Considering the intricate and dynamic nature of construction projects, HRM plays a vital role within the construction sector if compared with agriculture, energy and marine industries. Owing to this fact, HRM practices in the industry should be those that promote efficiency in any form, including smooth operations as well as on-time project completion (Garengo et al., 2021). Organization success and growth are majorly dependents on a sound human resource management department within the organization. The HRM manages the organization valuable assets in terms of human capital by contributing towards achieving the organization strategic objectives while maintaining its core function and building a good working culture among employees.

The HRM covers a wide range of scopes such as recruitments and selection, training and development, performance management, and employee retention relation activities. However, looking at the present environment and forecasting the future in terms of competition in the business environment, organization that focus more on HRM and invest in this regard stand at a better position to attract, develop and retain the best talent while attaining its core objectives. The construction workforce is made up of skilled and unskilled laborers among others such as engineers, project managers, administrators, and different kinds of knowledge field who need separate HRM approaches for better performance.

Similarly, the high attrition rates among skilled labour due to the temporary and transient nature of construction jobs which disrupt project continuity and inflate operational costs (Ameh & Daniel, 2017). In addition, rapid technological changes in the industry as well as geographical spread of construction sites pose serious challenges with regard to provision of consistent and effective training thereby resulting in decreased project deliverables and increased safety risks. Moreover, complying with labour laws and safety regulations makes these issues even worse because noncompliance can lead to serious legal and reputational consequences (Garengo et al., 2021).

These issues have serious implications on project deliverables within the construction industry. Issues such as lack of training, high employee turnover and lack of adherence to regulations contribute to delayed projects, exceeding budgets, compromised quality as well as poor safety standards (Romford, 2021). However, there is a paucity of comprehensive research on this particular impedes concerning numerous aspects of human resource management (HRM) within the construction industry.

Therefore, this research seeks to evaluate existing HRM practices challenges at various construction firms, outline major challenges that hinder their effectiveness in terms of project deliverables and this could inform stakeholders on the negative consequences of those challenges whenever they are executing project. Furthermore, these could enhance the Human Resource Management (HRM) processes so as to contribute towards overall success of construction projects deliverables. In achieving such goal the study, will identify and evaluate the factors that impede HRM practices in the construction firms of various types within the study area.

MATERIALS AND METHODS

A quantitative research design was adopted for the study. This approach is suitable for investigating the HRM challenges in the construction industry because it allows the researcher to quantify variables, measure the extent of relationships between the variables, and generalize findings across a larger population. Quantitative research is grounded in objectivity, relying on numerical data that can be statistically analyzed to reveal insights and patterns that might not be immediately apparent through qualitative analysis alone (Creswell & Plano-Clark, 2014). The population for the study comprises of all selected construction companies that were registered or have participated in construction activities in both federal institutions and ministry of works and housing in the last five (5) years in Kebbi State North-West Nigeria. These companies vary in size, type specialization, and operational structure, but all are involved in construction projects of various types, making them relevant for studying the challenges of Human Resource Management (HRM) within the industry. The target respondents in the study were all management level officers, Professional on site, and site supervisors (clerk of works and foreman). Considering the fact that the respondents are knowledgeable and understand HRM aspect, a random sampling technique was employed in selecting the respondent for the study. By using this technique, the research aim to gather a diverse set of responses from companies of different sizes and types, ensuring that the findings reflect a broad spectrum of HRM practices and challenges. A sample size of 65 was generated based on Chaokromthong, and Sintao, (2021) which is used for finite or known population is adopted. A total of 65 questionnaires were self-administered to the target respondent in the study area, with 56 completed and returned

correctly, representing an 86.15% response rate. The returned questionnaires were evaluated to determine whether or not they were suitable for the analyses that will be presented in the next section. Both descriptive and inferential statistics were used to analyses the data collected in the questionnaire.

RESULTS AND DISCUSSION

Demographic profiles of sampled respondents as in Table 1 with 56 numbers of cases presented after data screening. Gender distribution indicated that about 83.9% of the respondents were males and 16.1% were females. The result also showed that about 37.5% of the respondents were age between 21-29 years, 33.3% are between 30-39 years and 17.9% are between the age of 40-49 years, however only 5.4% were below 20 years and above 50 years. Even though more than 60.7% of the respondents' job types were employee (Middle Management Staff) in the organization, about 26.8% reported that they function as Supervisors in their organization and only 12.5% function as human resource manager in the various organization from the Table 1 Considering the nature of the research and the population, it shows that 7.1% of the respondents comes from the residential type of construction project firms, while 23.2% from commercial/private project firms, 48.2% are from infrastructure project firms and 21.5% were from those project firms that participated in all categories of projects from the study area. This shows that most of the respondent comes from commercial/private project firms within the study area.

Table 2 shows the descriptive statistics for human resource management (HRM) challenges among different types of construction firms reveal notable variations. For residential project types, the mean HRM challenge score is 8.00, with no variation (standard deviation = 0.00), indicating that the

challenges faced are uniform across the limited sample size (N = 2). The minimum and maximum values are both 8.00, reinforcing the lack of variability in responses.

Table 1: Respondents' Demographic Data Analysis

Attributes	Frequency (N=56)	Percentage (100%)
GENDER		
1 Male	47	83.9
2 Female	9	16.1
AGE OF RESPONDENTS		
1 Below 20 years	3	5.4
2 21-29 yrs	21	37.5
3 30-39yrs	19	33.3
4 40-49yrs	10	17.9
5 50+ yrs	3	5.4
JOB TITLE OF RESPONDENTS		
1 HR Manager	7	12.5
2 Supervisor	15	26.8
3 Employee	34	60.7
WORKING EXPERIENCE IN CONSTRUCTION		
1 Under 2years	13	23.2
2 Between 2 – 5 years	24	42.9
3 Between 6 – 10 years	13	23.2
4 Above 10 years	6	10.7
TYPE OF CONSTRUCTION PROJECT FIRM/COMPANY		
1 Residential building Projects Firm	4	7.1
2 Commercial/Privates Building Firm	13	23.2
3 Infrastructure Project Firm	27	48.2
4 All categories of Projects Firm	12	21.5

Table 2: Human Resource Management Challenges among Construction Firm Types

Project Types	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
				Lower Bound	Upper Bound		
Residential Project Firms	8.00	0.00	0.00	8.00	8.00	8.00	8.00
Commercial/Private Project Firms	17.00	9.19	4.11	5.59	28.41	9.00	27.00
Infrastructure Project Firms	18.33	2.73	1.12	15.47	21.20	15.00	22.00
All Types of Projects Firms	33.74	6.15	0.94	31.85	35.64	16.00	40.00
Total	29.78	9.72	1.29	27.08	32.29	8.00	40.00

Source: Field Work 2024

In contrast, private project types have a higher mean HRM challenge score of 17.00, with a standard deviation of 9.19, suggesting significant variability in responses. The

sample size ($N = 5$) is small, but the range of scores from 9.00 to 27.00 highlights differences in the challenges experienced by firms operating in private projects. The standard error of 4.11 indicates a relatively high level of uncertainty in the estimated mean. For infrastructure project types, the mean HRM challenge score is slightly higher at 18.33, with a lower standard deviation of 2.73. This suggests more consistency in responses compared to private projects. The minimum and maximum values, 15.00 and 22.00 respectively, indicate moderate variation, while the standard error of 1.12 shows a more precise estimate of the mean.

When considering all types of projects, the mean HRM challenge score rises significantly to 33.74, with a standard deviation of 6.15, indicating a broader range of challenges experienced across different construction projects. With a larger sample size ($N = 43$), the minimum and maximum values of 16.00 and 40.00 show a wider spread of challenges, while the standard error of 0.94 suggests a more reliable estimate of the mean. Finally, across all project types combined, the total mean HRM challenge score is 29.68, with a

relatively high standard deviation of 9.72, indicating substantial variability in the responses. The minimum value is 8.00, while the maximum is 40.00, highlighting the diverse range of HRM challenges experienced by construction firms. The standard error of 1.30 suggests a moderate level of confidence in the estimated mean.

Overall, the data suggests that HRM challenges are least severe in residential projects, moderate in private and infrastructure projects, and most significant for firms handling multiple project types. The variation in scores across different categories highlights the complexity of HRM issues in the construction industry.

Table 3 shows the ANOVA test conducted on human resource management (HRM) challenges among construction firms reveals significant differences across the different project types. The between-groups sum of squares is 3226.695, with three degrees of freedom ($df = 3$), leading to a mean square of 1075.565. This indicates that a substantial portion of the variation in HRM challenges is due to differences between the construction firm types.

Table 3: Human Resource Management Challenges ANOVA Test on Construction Firms.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3226.695	3	1075.565	28.455	.000
Within Groups	1965.519	52	37.798		
Total	5192.214	55			

The within-groups sum of squares is 1965.519, with 52 degrees of freedom ($df = 52$), resulting in a mean square of 37.798. This represents the variation in HRM challenges within each type of construction firm. The F-statistic (28.455) is significantly large, suggesting that the differences between the construction firm types are not due to random variation or chance, but rather is statistical evidence based.

The p-value ($\text{Sig.} = .000$) is well below the standard significance level of 0.05, confirming that there is a statistically significant difference in HRM challenges among different types of construction firms.

Since the ANOVA test shows significant differences, it suggests that HRM challenges vary substantially based on the type of construction firm. Further post-hoc tests (such



as Tukey's HSD) could help determine which specific project types differ significantly from each other in terms of HRM challenges. As

such the study further identify from the various group that resulted in this significant difference as shown in Table 4.

Table 4: Post Hoc Test for Multiple Comparisons of Challenges among Construction Firm Types.

(I) Types of Firms	(J) Types of Firms		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Residential Project Firms	Comm/Private Firms	Projects	-9.00000	5.14382	.086	-19.3218	1.3218
	Infrastructure Firms	Projects	-10.33333*	5.01986	.045	-20.4064	-.2603
	All Types of Projects		-25.74419*	4.44728	.000	-34.6683	-16.8201
Commercial/Private Projects Firms	Residential Project Firms		9.00000	5.14382	.086	-1.3218	19.3218
	Infrastructure Firms	Projects	-1.33333	3.72283	.722	-8.8037	6.1371
	All Types of Projects		-16.74419*	2.90495	.000	-22.5734	-10.9150
Infrastructure Projects Firms	Residential Project Firms		10.33333*	5.01986	.045	.2603	20.4064
	Private Projects Firms		1.33333	3.72283	.722	-6.1371	8.8037
	All Types of Projects		-15.41085*	2.67932	.000	-20.7873	-10.0344
All Types of Projects	Residential Project Firms		25.74419*	4.44728	.000	16.8201	34.6683
	private Projects Firms		16.74419*	2.90495	.000	10.9150	22.5734
	Infrastructure Projects Firms		15.41085*	2.67932	.000	10.0344	20.7873

* The mean difference is significance at the 0.05 level

The post-hoc Tukey's HSD test in Table 4 provides detailed insights into the differences in human resource management (HRM) challenges across various construction firm types (Arkkelin, 2014). When comparing residential project firms with other project firms, it was found that HRM challenges are significantly lower in residential projects. Specifically, residential projects face significantly fewer challenges than infrastructure projects (mean difference = -10.33, $p = 0.045$) and all types of projects (mean difference = -25.74, $p = 0.000$). However, the difference between residential and private projects is not statistically significant (mean difference = -9.00, $p = 0.086$), indicating that HRM challenges in residential and private projects are fairly comparable, although the result approaches significance. Commercial/Private projects, the

comparison with infrastructure projects also shows no significant difference in HRM challenges (mean difference = -1.33, $p = 0.722$), suggesting that both project types experience similar challenges. On the other hand, private projects face significantly fewer HRM challenges than firms handling all types of projects (mean difference = -16.74, $p = 0.000$), indicating a clear disparity between the two in terms of HRM-related difficulties.

Infrastructure projects, when compared to residential projects, face significantly more HRM challenges (mean difference = 10.33, $p = 0.045$), which aligns with the general trend that larger and more complex projects tend to encounter more HRM-related issues. However, the comparison between infrastructure and private projects shows no significant difference (mean difference = 1.33, $p = 0.722$),



suggesting that these two types of projects face a similar level of HRM challenges. Furthermore, when infrastructure projects are compared with firms handling all types of projects, the infrastructure projects face fewer HRM challenges (mean difference = -15.41, $p = 0.000$).

Lastly, when comparing all types of projects to the other project types, it is evident that firms handling a variety of projects face significantly more HRM challenges. These firms experience significantly higher HRM challenges than those focused on residential projects (mean difference = 25.74, $p = 0.000$), private projects (mean difference = 16.74, $p = 0.000$), and infrastructure projects (mean difference = 15.41, $p = 0.000$). This suggests that firms managing multiple types of projects face a broader range of HRM issues, likely due to the complexities and diverse needs of handling various project types simultaneously.

In summary, the results highlight that residential projects consistently report fewer HRM challenges, with infrastructure projects and firms working on multiple types of projects experiencing significantly higher challenges. Private projects tend to fall in between, with a few significant differences from both residential and all-project firms. These findings suggest that the complexity and variety of construction projects have a direct impact on the HRM challenges encountered by construction firms. This challenges evaluated are in agreement with some previous studies on HRM (Loosemore et. al., 2023, Garengo, Sardi & Nudurupati, 2021), whom identified challenges in the form of skill shortages, instability and high turnover faced by most construction firm due to rapid technology advancement.

Furthermore, the study re-affirms that project deliverables are being affected due to HRM challenges and as such project objectives were

declined half way (Lossemore et al., 2023). The project objectives being affected in terms of project delays, cost overrun, productivity and skilled worker retention (Hamadamin & Atan's, 2019, Lingard & Francis, 2019). The result further indicates that human resource management (HRM) functions in most of the construction firms evaluated are faced with either two or more different HRM challenges in their organizations such as selection practices, training and development, performance, retention and high workers turn over (Jeganathan & Ogunbiyi, 2023, Adeleye & Gorge, 2023, Van Vulpen & Olatunji, 2024, Agarwal, 2023, Lievens, & Chapman, 2019).

CONCLUSION

This study evaluated HRM barriers in the construction firms. The findings highlight that all categories of construction firms are being faced with various human resource management barriers, but with a higher significantly barriers from firms with a diverse function of construction activities. These findings suggest that the complexity and variety of construction projects have a direct impact on the HRM challenges encountered by construction firms. These challenges underscore the need for construction companies to adopt structured and proactive HRM practices that focus on employee retention, skill development, and safety compliance. Effective HRM strategies, such as competitive compensation, targeted recruitment, and robust training programs, are crucial to improving workforce stability and enhancing project outcomes. However, further research are required to ascertain the effects of those barriers on the construction firms as well as strategies that can be adopted to improve on HRM practice by the construction firms in all categories. Overall, the study contributes to a better understanding of HRM issues within the construction sector and highlights practical



evidences base that companies/firms can improve their performance and productive workforce in order to have an effective project delivery for their clients’.

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