HUMAN RESOURCE CAPABILITIES AND PERFORMANCE OF CONSTRUCTION FIRMS IN KENYA

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ABSTRACT

The success of any business firm depends on the effective and efficient engagement of its human resource capabilities and in every project-based industry like the construction industry, firm performance is linked to the capabilities of its human resources. Human capital theory support human resource capabilities and firm performance and anchored on the objective of study to bring fore review of human resource capabilities' influence on firm performance. The purpose of this study was to establish the influence of human resource capabilities on performance of construction firms in Kenya. The study used descriptive research design and adopted the positivist philosophy approach. The target population in this study was 357 firms registered with BORAQS and 30 Contractor best performing firms in the construction industry in Kenya. Stratified sampling technique was considered with a sample size of 189 firms. The study substantially depended on primary data sources on self-administered questionnaire as a source of data and data collected were both qualitative and quantitative. The collected data were then keyed into SPSS and analyzed using descriptive and inferential statistics. The study adopted descriptive, correlation research designs and inferential statistics were also used to analyze the obtained data. Multiple linear regression revealed significant statistical relationship between human resource capabilities effect on firm performance, (R2 =0.201, p=<0.001). Correlation analysis revealed that there was a positive significant moderate linear relationship between human resource capabilities and performance of construction firms (r = 0.455, p = <0.001). This was indicated by significant p-values less than 0.05 at 95% confidence level. The qualitative data from respondents revealed that human resource capabilities had effect on performance (M= 4.42) and noted inadequate of skilled competent labour in the industry. Hypothesis testing noted that human resource capabilities had significant statistical effect on performance of construction firms in Kenya therefore null hypothesis was rejected. The research study recommended that each firm needed to pay more attention, prioritize their strategies on capacity development, recruitment and compensation to enhance better performance and urged for introduction of measures to reduce costs of production through lean thinking concept.

Keywords: Human Resource Capabilities: Performance: Construction Industry.

INTRODUCTION

Global competition has emerged as a significant threat to all nations in the current era of globalization and the competitive landscape seeks availability of high-quality and talented human resource capabilities with a keen focus on excellence according to the Global Competitiveness Index report for the years 2016-2017. In this stiff hostile and competitive global business market, evolving challenges are complex and unpredictable and therefore require serious firms to employ distinguished human resource capital with capabilities that can withstand sustainable competitive advantage (SCA) over rivals in such uncertain market place. For firms to have sustainable competitive advantage, such firms must capitalize and exploit their dynamic abilities to transform raw materials into customer focused finished products or services. Johnson, Scholes & Whittington (2014) earlier noted that top management were spending a lot of inordinate amounts of time on strategic planning on how best to optimize the use of scarce valuable resources of the firm to outperform competitors which is the key aim of employing talented human resource capabilities in a firm. Several scholars are in agreement that firm resources that were difficult to imitate, possess, value, scarce and irreplaceable supports the resource-based theory and that such resources are more likely to generate SCA.

Human resource capabilities is the most undisputed intangible asset and the researchers further noted that general human capital is transferable across jobs, firms and industry while specific human capital is entrenched in an individual through education, training and work experience of a firm unique task and therefore key in competitive market performance. Specific human capital is unique and rarely transferable just like income in the labour market and this has been supported by empirical studies by Barro (1991), Baumol, Blackman, & Wolf (1989), Mankiw, Romer & Well (1992) whose individual studies acknowledged cumulative effects of capacity development in a firm and this was later confirmed by Izushi & Huggins (2004) that noted the influence of specific human capital and termed HR as a sum total of staff intelligence and experience that leads to competitive advantage and noted that the human capital theory plays a critical role in HRM practices that enhances firms' goals through better recruitment and selection, training and development. Specific human capital is entrenched in an individual through capacity development, recruitment and work experience of a firm unique task and therefore key in competitive market performance. If the employees feel unmotivated, they often leave the firm because of inadequate compensation. The human resource capabilities in this study were top managers and senior employees and their competencies were relevant experience, skills, knowledge and building relationships which when combined, produced human resource capabilities.

Statement of the Problem

The disturbing evidence by National Construction Authority (NCA) in 2018 that despite the high quality of human resource capabilities in the construction industry in Kenya coupled with high government regulation on the industry in the major urban areas, construction firms are still prone to under performance requires further empirical study. This is rampant in construction projects that have perennial cost overrun, delayed completion period, substandard quality, high maintenance costs, dissatisfied clients, litigation and even buildings which were

not functional as originally planned and Kibuchi & Muchungu (2012) and Lepartobiko (2012) both noted that medium to large size projects had high chances of performance failure rate and that the consequences were costly and lengthy, with the worst outcomes often leading to undesirable litigation and emotional grief but added that the under performance in developing nations surpassed that of developed nations. KNBS (2025) documented that loan by commercial banks sharply dropped from 602.7 billion in 2023 to 528 billion in 2024 and credit advances to construction firms also fell to 576.3billion in 2024 from 602.7 billion in 2023 and further noted a decline in private construction firms' jobs that stood at 223,400 in 2024 from 226,300 in 2023. But even though several research studies have exposed the relationship between human resource capabilities and performance, mixed findings outcomes are still creating doubt and are not pinned in the construction industry which continue to struggle with performance hence the need for this study.

Research Objective

The general objective of this study was to establish the influence of human resource capabilities on performance of construction firms in Kenya.

Research Hypothesis

H_{01}; Human resource capabilities has no significant statistical influence on performance of construction firms in Kenya.

LITERATURE REVIEW

Human capital theory (HCT) was formulated by Becker (1964) which concluded that human resource capability is directly responsible for productivity through value chain processes and that human resource capability embraces dynamic technology through continuous capacity development which boosts talent uptake. In brief, the theory explored the value of human resource capabilities in a firm including its contributions on strategic objectives and firm performance and concluded that a more experienced skilled employee is a valuable human resource that eases technology uptake, generate more return through talent, novelty nourishment and considered capacity development, recruitment and better compensation of employees as extremely paramount in success of a firm.

Human Resource Capabilities and Performance.

Kiai, Lewa & Karimi (2019) results showed a significant relationship linking strategic HR practices and the success of those firms listed in the Nairobi Security Exchange. Altarawneh (2016) found that human resource practices such as employee rewards, employee training, compensations, and preliminary tests affected commercial banks' performance in Saudi Arabia and noticed that human resource activities were highly significant in determining the performance of multiple firms meaning that conducting employee training helps in improving current employee performance and makes them highly capable in tackling new workloads.

Coffey (2015) noted that donor agencies relied upon capacity development tools to generate the evidence base for measuring "success" across the spectrum of their work, although projects varied significantly in their nature, scope and time-span while later Vallejo & When (2016),

evaluated capacity development by identifying and analyzing the various approaches put forward over time and outlined the processes and challenges of capacity development when the pre-defined indicators were not captured in the preparation stage and findings noted that capacity development strategy ought to consider the programme, human resources, beneficiary population, other stakeholders and the operational context and lack of a tailor-made approach to capacity development.

According to studies (Alhamad et al., 2022; Kucherov & Tsybova, 2022) on correlating hiring practices with firm effectiveness, incorporated by (Muisyo et al., 2022) revealed that hiring practices that produce a vast pool of qualified candidates could considerably change the degree and nature of new hires' competencies and stated that recruitment and selection play a crucial part in ensuring the person's performance and successful firm outcomes are hinged on the widespread belief that individual selection only happened when replacing departing employees or hiring of additional staff and placement of talented and devoted individuals in such appropriate positions (Price & McGillis, 2014) and concluded that there was link between effective firm performance and the hiring process. Mahmood *et al*. (2016) on the impact of recruiting and firing procedures on Tanzania's public water utility's effectiveness study results which agreed with (Greiner, 2015; Javed & Basheer, 2017) that there was a significant correlation between the firm performance of public water utilities and the hiring and selection of personnel and both studies were later supported by the research conducted by Bratton & Gold (2017) that noted that recruitment was a process that develops a pool of qualified individuals to apply for firm positions and viewed the selection process as program that managers and other participants use in applying specific methods and instruments to identify candidates that were more likely meet job requirements fit, legal requirements, and management targets and goals. Later, research by Basheer *et al.,* (2018) added that, certain non-specialists and line managers more often decide on hiring and selection of new employees. The execution of critical strategies like total quality management and supply chain management including the performance of strategic business units, are all indicators that have an impact on firm's performance (Helmreich & Merritt, 2017), as are several other dimensions that present a systemic risk to the firm (Shin & Konrad, 2017). Hanim (2016) study detected high recruitment costs of foreign labour as a result of recipient government taxes, health tests, security bonds and medical costs all led to shortage of skilled labour in Malaysia.

Onuorarah *et al.,* (2019) study assessed the effect of compensation management and employee performance in organization in Anambra State, Nigeria and Z-test was used to test the hypotheses at 0.05 level of significance noted that equity based compensation, competency based compensation and performance based compensation all had no negative significance statistical effect on employee performance and study concluded that compensation management had significant statistical influence on employee performance in Nigeria firms. The study recommended that every firm should make equity-based compensation a compulsory policy since equity-based compensation were used more extensively in firms to ensure maximum performance and that every firm should formulate competency-based compensation policy and the only thing separating the employees and a better wage was how much they contributed and how successful performance occurred and therefore management should have

performance-based compensation plans and program at every level of the firm. In all the above reviewed studies, none was in the construction industry. It is of great interest to test the influence of human resource capabilities on performance of construction firms.

Conceptual Framework.

Independent Variable. **Dependent Variable**

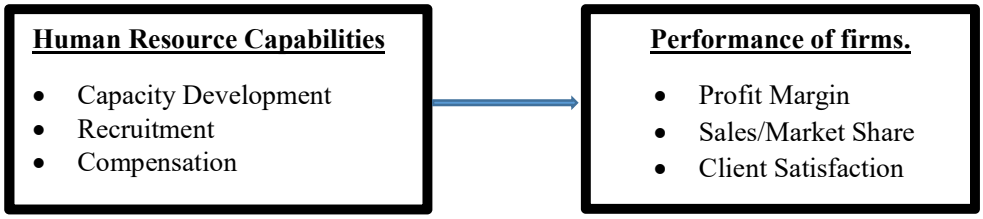

Figure 1 Conceptual Framework

Required skills in the construction is acquired through informal and formal training through capacity development and if recruitment is performed skillfully repeatedly with better compensation terms, it creates better performance that leads to human resource capabilities. Capacity development, recruitment and compensation in the firm affects profit margin, sales and improves client satisfaction. Performance in construction firms in this study depends strictly on three measurement parameters namely profit margin, sales/market share and client satisfaction and if all the above parameters are achieved then desired performance target are met and in the event of a shortfall in any of the above parameters, then performance challenges is inevitable.

RESEARCH METHODOLOGY

The study used a descriptive research design and the target population was 357 firms which included; 196 selected architectural firms, 131 Quantity Surveying firms all registered with Board of Registration of Architects and Quantity Surveyors (BORAQS) and 30 Contractor best performing firms in Construction Review Journal in the construction industry in Kenya. Stratified sampling technique was employed with a sample size of 189 firms which included; 104 selected architectural firms, 69 Quantity surveying firms and 16 Contractors. The study majorly depended on primary data sources based on self-administered questionnaire and the data collected were both qualitative and quantitative. The collected data were then keyed into SPSS and analyzed using descriptive and inferential statistics. The study adopted descriptive, correlation research designs and further inferential statistics were used to analyze the obtained data.

This study considered stratified random sampling with proportional allocation. The sample size (n) for the study was calculated using the Serekan (2006) and Yamane (1967) formulae, at 95% confidence level and precision level, e= ±5% was taken for the equation. Multiple Linear regression analysis was used to assess the nature and magnitude of the relationship between variables; and to test hypothesized relationships. The coefficient r showed the strength and direction of linear relationship between variables of study and correlation was considered strong when r=0.5 and above, moderately strong when r is between 0.3 to 0.49, weak when r is below 0.29, and 0 indicated no relationship.

The value of the coefficient of determination R^2 showed the amount of variation in the dependent variable(s) attributed to the predictor variable(s). The Beta values showed the amount of change in the dependent variable attributable to the amount of change in the predictor variable, and the F ratio measured how well the equation line or model developed fitted with observed data. The statistical significance of each hypothesized relationship was interpreted based on the F and t values. The multiple regression model used was represented as below: $\mathbf{Y_i = \beta_0 + \beta_1 X_1 + \varepsilon_i}$ Where, human resource capabilities = X_1, ε_i is the error term. Performance of construction Firms = Y_1.

ANOVA statistic was also used for hypothesis testing to determine the relationships and predictions between the independent and dependent variables. The hypothesis was tested within 95 per cent level of confidence interval or 5 per cent level of significance. Multiple linear regression analysis was used to predict the value or influence of the independent variable on the dependent variable. The independent variable was human resource capability and the dependent variable was performance of firms. Table 1 below gives a summary of the objective and Null Hypothesis of the study, the type of data analysis and interpretation of the results.

Table 1 Test of Hypothesis

Objective	Null Hypothesis	Type of Analysis and Interpretation of results
establish the influence of human resource capabilities on performance of construction firms in Kenya.	$\mathbf{H_{01}}$; Human resource capabilities has no significant statistical influence on performance of construction firms in Kenya	Multiple linear regression analysis. If P value $\leq \alpha/_2$, we reject the null hypothesis, and conclude that human resource capabilities significantly influence performance at the given level of significance, α.

DATA ANALYSIS AND DISCUSSION

The study targeted 189 firms in the construction industry in Kenya. Questionnaires were administered to each of the firms and a response rate of 77**%** attained concurred with earlier researchers like Zoubi (2012) and Bula (2012) that noted such response rates as admissible and also fitted well with Mugenda & Mugenda (2003) response benchmark ratings. In summary, the overall response rate of 77% was excellent and therefore good thresholds for the research study to proceed with data analysis, presentation and interpretation including discussion stages. The reliability variables were all reliable since their Cronbach alpha values were greater than 0.7, that is, human resource capabilities had 0.721and firm performance had 0.791. The research instrument was reliable and required no amendments and a CVI of 0.947 obtained was acceptable as a valid instrument because it met the standard measure of Oso & Onen (2009) study that noted validity coefficient of at least 0.70 acceptable as a valid research instrument for empirical research study.

Human Resource Capabilities and Performance.

The respondents were asked to indicate the status of availability of competent skilled manpower in the construction firms and the results were presented in Table 2.

Table 2: Status of availability of competent skilled manpower in the construction firms

	Frequency	Percent	Cumulative Percent
Adequate	39	26.9	26.9
Inadequate	106	73.1	100.0
Total	145	100.0	

The result from table 2 showed that majority of respondent 73.1% confirmed that availability of competent skilled laobour were inadequate and only 26.9% had a different opinion.

Table 3: Descriptive Analysis of Human Resource Capability

	SD	D	N	A	SA	Mean	Std. Dev
	%	%	%	%	%		
Capacity Development enhance human resource capability in your firm	0.7	2.1		29.7	67.6	4.61	.669
Your firm engages a task force to evaluate capacity development structure of employees in your firm	0.7	1.4	9.7	57.2	31.0	4.17	.707
Your firm practice policy and advocacy training of staff to enhance capability	6.9	0.7	2.1	47.6	42.8	4.19	1.034
Upskilling of staff saves wastefulness of resources during design/construction process in your firm	0.0	0.0	0.0	46.9	53.1	4.53	.501
Your firm practice staff leadership development programs and mentor ship programme	3.4	9.7	6.9	39.3	40.7	4.04	1.086
Recruitment process of employees is done through HR consulting firms competitive process to get the best candidate in your firm	0.0	6.9	9.0	42.8	41.4	4.19	.866
Your firm empowers employees through better compensation and benefit packages	0.0	0.0	9.7	44.8	45.5	4.36	.653
Your firm has an effective employee succession plan in place that ensures continuous human resource capability	2.1	6.9	6.9	47.6	36.6	4.10	.945
Your firm motivates employees and therefore aim to spend the rest of their career in your firm	0.0	2.8	8.3	46.9	42.1	4.28	.733
Your firm cares for employees' general satisfaction at work	0.0	0.0	2.1	44.1	53.8	4.52	.541
Your firm gives promotion of employees on merit	0.0	0.0	1.4	24.8	73.8	4.72	.478
Your firm rewards employees fairly	0.0	0.0	0.7	39.3	60.0	4.59	.507
Continuous efforts made in your firm create a sense of belonging and team spirit among employees	0.0	0.7	3.4	28.3	67.6	4.63	.589

The respondents of the study were requested to respond to 13 aspects of human resource capabilities in regard to its influence on performance of construction firms in Kenya and the respondents indicated that capacity development enhanced human resource capabilities in their firms (M = 4.61, SD = 0.669). Majority affirmed (97.3%) while only 2.8% of them disputed. The results again noted that firms in the construction industry engaged a task force to evaluate capacity development structure in the firm (M= 4.17, SD = 0.707). Most respondents agreed (88.2%) and (2.1%) disagreed. It revealed that the firm practiced policy and advocacy training of staff to enhance capability and added that upskilling of staff saved wastefulness of resources during design/construction process in firms in construction industry with all the respondents agreeing (100%). This was indicated by a mean score of 4.53 and a standard deviation of 0.501. The respondents again noted that firms practiced staff leadership development programs and mentor ship programme (M = 4.04, SD = 1.086) as majority agreed (80.0%) and affirmed that recruitment process of employees was done through HR consulting firms competitive process to get the best candidate for the firm (M=4.19, SD=0.866).Construction industry firms were

found to be empowering employees through better compensation and benefits packages (M = 4.36, SD = 0.653) and majority affirmed (90.3%) and only 9.7% were undecided. The respondents showed that their firms had effective employee succession plan in place that ensured continuous human resource capability (M = 4.10, SD =0.945) and that their firms motivated employees and therefore preferred to spend the rest of their career in their firms (M=4.28, SD=0.733) and majority agreed (89.0%). Nearly all the respondents agreed (97.9%) that their firms cared for employees' general satisfaction at work (M = 4.52, SD =0.541). It was also highly agreed that the firms gave promotion of employees on merit (M = 4.72, SD = 0.478) and that the firms rewarded employees fairly (M = 4.59, SD = 0.507). Lastly, the respondents agreed that continuous efforts were made in their firms to create sense of belonging and team spirit among employees (M = 4.63, SD = 0.589). This was seen as most of the respondents agreed (95.9%) and only few remained neutral (3.4%) and (0.7%) disagreed.

The researcher went ahead and asked a multiple question to the respondents to indicate cadre of employees that were majorly trained in their firms. The results were presented as in Table 4.

Table 4: Cadre of Employees mostly trained in the Firm

	Responses		
	N	Percent	Percent of Cases
Top senior level managers	51	33.1%	35.2%
Middle level managers	74	48.4%	51.0%
Lower-level managers	5	3.4%	3.4%
All staff	23	15.0%	15.9%
Total	153	100.0%	105.5%

From the results it is seen that majority (48.4%) of employees trained in firms in the construction industry were middle-level managers and then top senior level managers at 33.1%, all staff (15%) and lastly lower-level managers (3.4%).

The respondents went ahead and responded on the type of training mostly carried out in the firm. This was a multiple question where the respondents would indicate more than one response. The results are as presented in Table 5.

Table 5: Type of Training mostly carried out in the Firm

		Responses		
		N	Percent	Percent of Cases
	Technical skills upgrade	88	39.3%	60.7%
	Social/soft skills upgrade	5	2.1%	3.4%
	problem solving skills upgrade	25	11.0%	17.2%
	Managerial skills upgrade	104	46.2%	71.7%
	Conceptual upgrade	2	1.4%	1.4%
Total		224	100.0%	154.5%

The results indicated that Managerial skills upgrade training (46.2%) were the most common, technical skills upgrade (39.3%), problem solving skills upgrade (11.0%), social/soft skills upgrade (2.1%) while the least was conceptual upgrade (1.4%).

Table 6 below showed results of the categories of employees who mostly resigned in firms in the construction industry.

Table 6: Category of Employees who mostly resign in the Construction Industry Firms

		Responses		
		N	Percent	Percent of Cases
	Top senior level managers	5	3.4%	3.4%
	Middle level managers	75	49.7%	51.7%
	Lower-level managers	9	6.2%	6.2%
	Union staff	2	1.4%	1.4%
	All staff	60	39.3%	41.4%
Total		151	100.0%	104.1%

From the results, middle-level managers (49.7%) head the pack of employees that mostly resigned from construction firms in Kenya and 39.3% of the respondents said that all staff equally resigned from the firms while respondents noted 3.4% top-senior managers and 6.2% indicated lower-level managers while 1.4% indicated union staff.

Descriptive Analysis of Performance of Construction Firms.

Performance of firms in construction industry was the dependent variable in this study. The data was collected from primary and secondary sources. The researcher asked the respondents to indicate their level of agreement to statements on performance of firms in construction industry. The statements were measured on a five-point Likert scale with 5 indicating strongly agree and 1 indicating strongly disagree. The results were presented in Table 7.

Table 7: Descriptive Analysis of Performance of Firms

	SD %	D %	N %	A %	SA %	Mean	Std. Dev
Our firm profit margin performance is always above expectation.	0.0	0.0	1.4	44.8	53.8	4.52	.528
Our firm profit margin performance is always within expectation	0.0	0.0	.7	38.6	60.7	4.60	.506
Our firm profit margin performance is always below expectation	49.0	49.7	1.4	0.0	0.0	1.52	.528
Our firm sales performance is always above expectation.	0.7	2.1	2.8	54.9	39.6	4.31	.692
Our firm sales performance is always within expectation.	0.0	0.0	0.0	30.3	69.7	4.70	.461
Our firm sales performance is always below expectation.	42.8	55.2	0.0	1.4	.7	1.62	.635
Our firm client satisfaction index is always above expectation.	0.0	0.0	0.7	53.1	46.2	4.46	.513
Our firm client satisfaction is always within expectation.	0.0	0.7	0.7	29.0	69.7	4.68	.525
Our firm performance on client satisfaction is always below expectation	49.0	49.0	0.7	1.4		1.57	.675

The respondents of the study were requested to respond to 9 aspects of firm performance in the construction industry in Kenya. The first item sought to find out whether the firms' performance profit margin was always above expectation and majority 98.6% of the respondents accepted (M =4.52, SD = 0.528) while 1.4% remained neutral. The second item sought to find out if the firms' performance profit margin was always within expectation which majority agreed (99.3%) with only 0.7% being neutral. The third item was on whether the respondents' firm performance on profit margin was always below expectation. From the results, the respondents disagreed on average (M =1.52, SD = 0.528) and majority disputed (98.6%).

The results again established that firm sales performance was always above expectation (M=4.31, SD=0.692) and within expectation (M=4.70, SD=0.461). Therefore, the respondents disputed that their firm sales performance was below expectation (M=1.62, SD=0.635). On client satisfaction, the respondents indicated that their firm performance was always within (M = 4.68, SD = 0.525) and (M = 4.46, SD = 0.513) above expectation. The respondents disputed that their firm client satisfaction performance was always below expectation (M = 1.57, SD = 0.643).

Comparison of Study Variables across Firm Categories

This section of the study sought to compare human resource capability and firm performance across firm categories (architectural firms, quantity surveying firms and contractor firms). To achieve this, the researcher compared their mean differences using a one-way analysis of variance (ANOVA) with Tukey post hoc test at 5% significance level ($\alpha = 0.05$). The results are considered to be significant whenever the probability value is less than 0.05 ($p<0.05$). The results were then presented in Table 8.

Table 8: Comparison of Study variables across Firm Categories

Variable	Architectural firm	Quantity surveying firm	Contractor firm	F(2,142)	P-value
Human Resource capabilities	4.41±0.308a	4.30±0.439a	4.45±0.314a	1.775	0.173
Firm performance	3.54±0.247a	3.51±0.212a	3.71±0.275b	3.661	0.028*

Notes: The means, followed by the same letter in a row are not statistically different at (P<0.05) using one way ANOVA.with Tukey test on post-hoc t-tests. * Indicates significance (p<0.05).

Human Resource capability was found to be statistically indifferent across firm categories. The result was significantly higher in contractor firms (M= 4.51, SD = 0.314) compared to that of architectural firms (M = 4.24, SD = 0.500) which was not the case for quantity surveying firms (M = 4.36, SD = 0.324) though different was insignificant, F (2,142) = 3.115, p = 0.047. This was further illustrated in Figure 2.

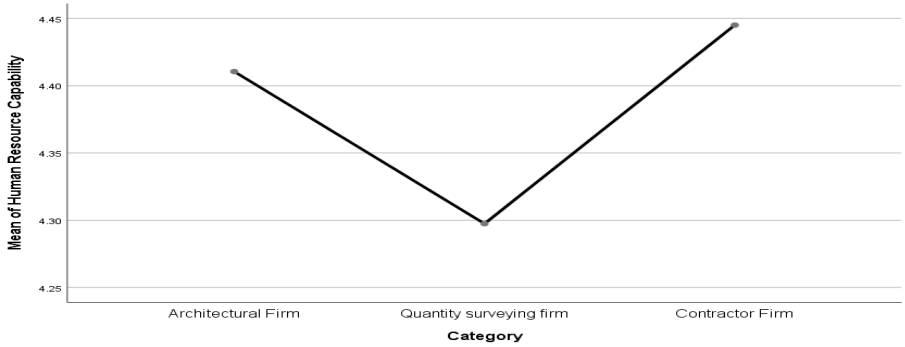

Figure 2: Comparison of Human Resource Capabilities across Firm Categories

From the results in Figure 3, the mean value of human resource capabilities in contractor firms (M= 4.54, SD = 0.219) was significantly higher than that of quantity surveying firms (M = 4.25, SD = 0.366) was lower for architectural firms (M = 4.41, SD = 0.250) though difference it was insignificant, F (2,142) = 7.139, p = 0.001.

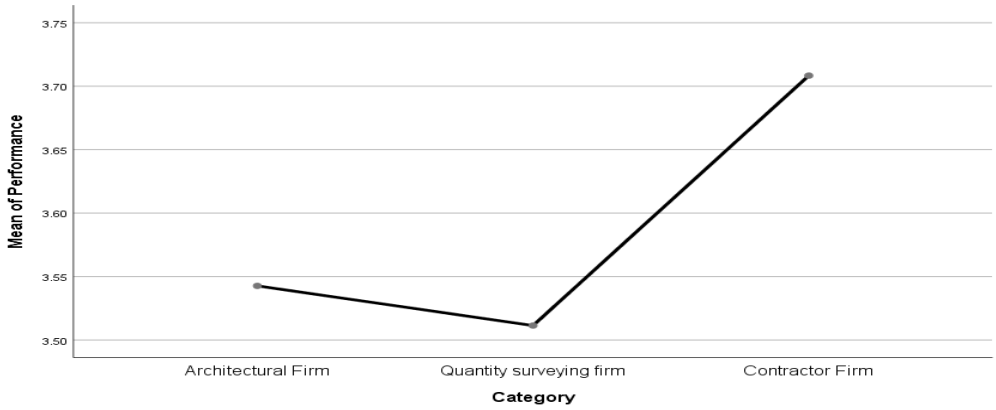

Figure 3: Comparison of firm Performance across Firm Categories.

Inferential Analysis of Human Resource Capabilities.

In this study, inferential analysis was used to test the study hypothesis. This study embraced parametric tests that entailed Pearson's correlation and linear regression analysis. This section tested assumptions made by regression and Pearson's correlation first, performs Pearson's correlation and finally performs linear regression which helped the researchers to solve the study objective.

Table 9: Correlation Analysis

4.1		4.2 Performance	4.3 Human Resource Capabilities	4.4	4.5	4.6
4.7 Performance	4.8 Pearson Correlation	4.9 1	4.10	4.11	4.12	4.13
	4.14 Sig. (2-tailed)	4.15	4.16	4.17	4.18	4.19
	4.20 N	4.21 144	4.22	4.23	4.24	4.25
4.26 Human Resource Capabilities	4.27 Pearson Correlation	4.28 .455**	4.29 1	4.30	4.31	4.32
	4.33 Sig. (2-tailed)	4.34 .000	4.35	4.36	4.37	4.38
	4.39 N	4.40 144	4.41 145	4.42	4.43	4.44

From the results in table 9, there was a positive significant moderate linear relationship between performance of construction firms and human resource capabilities, r= 0.455, p = <0.001. The results also indicated a strong linear relationship between performance of construction. These were indicated by significant p-values less than 0.05 at 95% confidence level.

Hypothesis Testing

Test of Hypothesis for Human Resource Capabilities

The study hypothesis sought stated that human resource capabilities had no significant statistical influence on performance of construction firms in Kenya. A simple linear regression was adopted and performed with performance as the dependent variable and human resource as the independent variable. The results are presented in three tables as shown in Table 10, 11and 12.

Table 10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.455[a]	.207	.201	.21830

a. Predictors: (Constant), Human Resource Capabilities.

The findings revealed that the coefficient of determination (R square) for the regression model was 0.201 which meant that human resource capabilities explained 20.1% of any variation or change occurring in the performance of construction firms in Kenya.

Table 11: ANOVA Results

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1.767	1	1.767	37.072	.000[b]
Residual	6.767	142	.048		
Total	8.534	143			

Table 11 shows the ANOVA results where F-calculated was 37.072 and the p-value was <0.001 inferring that this relationship was significant at 95% significance level since F-calculated was greater than F-critical (3.89). This showed that the model could significantly predict the response variable (performance of construction firms in Kenya).

Table 12: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.187	.225		9.738	.000
Human Resource Capabilities	.311	.051	.455	6.089	.000

a. Dependent Variable: Performance of construction firms in Kenya

The regression equation obtained from this finding was: -

$Y = 2.187 + 0.311 * X_1$ ..... Equation (1)

Where Y = Performance of construction firms in Kenya and X_1 = Human Resource Capabilities

Table 12 illustrated the findings that the coefficient for human resource was 0.311 which was statistically significant since p=<0.001 and was less than 0.05 level of significance, meaning that when human resource capabilities changed by one unit, it led to 0.311 units change in the performance of construction firms in Kenya. Also, that if human resource capabilities were held constant at zero, then the performance of construction firms in Kenya would be 2.187. Therefore, the null hypothesis, which claimed that human resource capabilities had no significant effect on the performance of construction firms in Kenya, was rejected. This suggested that there existed a significant positive linear relationship between human resource capabilities and performance of construction firms in Kenya.

The result supported earlier observations by Kiai, Lewa & Karimi (2019), Altarawneh (2016),Coffey (2015), Vallejo & When (2016), studies by (Muisyo et al., 2022), Price & McGillis, 2014), Mahmood *et al*. (2016) results which agreed with (Greiner, 2015; Javed & Basheer, 2017), Bratton & Gold (2017) , Basheer *et al.,* (2018) , (Helmreich & Merritt, 2017), (Shin & Konrad, 2017), Hanim (2016) and Onuorarah *et al.,* (2019). From the above results it can be concluded that human resource in the construction industry in Kenya is not one of the most critical capabilities influencing performance of firms.

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

The coefficient for human resource capability was 0.311 which was statistically significant since p=<0.001 and was less than 0.05 level of significance, meaning that when human resource capabilities changed by one unit, it led to 0.311 units change in the performance of construction firms in Kenya and that, if human resource capabilities were held constant at zero, then the performance of construction firms in Kenya would be 2.187 units. Therefore, the null hypothesis which claims that human resource capabilities had no significant statistical effect on the performance of construction firms in Kenya, was rejected. This suggested that there existed a significant positive linear relationship between human resource capabilities and performance of construction firms in Kenya. The findings revealed that the coefficient of determination (R square) for the regression model was 0.201 which meant that human resource capabilities explained 20.1% of any variation or change occurring in the performance of construction firms in Kenya.

The study established that capacity development of employees were given moderate consideration in the construction firms under the study. Most training sessions in the firms targeted the development of managerial skills and technical skills as opposed to the development of problem-solving skills, conceptual skills and soft skills upgrade. lack of emphasis on the training of staff on problem solving skills and conceptual skills upgrade were factors considered as a source of future depletion of problem-solving skills and conceptual skills in the construction firms which are seen as critical in the achievement of desired sustainable competitive performance and dispute resolution. The construction firms under study were likely to experience low performance due to limited investment in training and development of staff in the problem-solving fields including a nil score in conceptual skills upgrade.

Employee compensation challenges were being tackled moderately in the construction firms which were creating some level of employee dissatisfaction trends and the demographic data indicated high staff turnover among the middle level managers and this proved retrogressive to the smooth operation of firms in the construction industry and desired firm performance results. Employees are the assets or backbone of any firm success and therefore require capacity development in the firm for better performance results. The respondents felt that availability of competent skilled manpower in the construction firms were inadequate and therefore affected overall performance of construction firms. Correlation analysis noted a statistically moderate

positive correlation between human resource capabilities and performance of construction firms (r=0.455, p=<0.001).

Conclusions

The conclusion observed from the research findings was that human resource capabilities positively influenced performance of construction firms in Kenya as shown by the correlation and multiple linear regression analyses results, although, the relationship was moderately statistically significant as revealed by the hypothesis testing result, the firms targeted mostly the development of managerial skills and technical skills and relegated the problem solving and conceptual skills upgrade competency of the staff members which basically underpins creativity and analytical skills abilities of managers to understand complicated or abstract ideas. It was not therefore surprising that significant industry problems are prevalent since they didn't embrace problem solving and conceptual upgrade skills in the industry. The soft skills from the results of this research were relegated as well and this was strange because, while majority of employers earlier said that they faced the biggest challenges when it came to hiring entry-level jobs, they didn't fully exploit the critical single tool of assessment of soft skills that could assist them overcome such challenges. The study also noted inadequacy of competent skilled labour in the industry.

Recommendations

The recommendations were that the industry should keep a sharp eye and keen attention to the capacity development of the human resource capabilities in problem solving skills and soft skills in the technical fields and better compensation of staff in order to ensure desired performance of construction firms because the rampant staff turnover revealed in the findings were noted to be disruptive in the operation of firm activities.

Areas for further study

The study recommends further research that similar studies be done in other counties to confirm the results including further studies to identify and expose other variables that could be explaining the 79.9% change of on performance.

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