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Assessment of Craftsmen Turnover in the Construction Industry

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ABSTRACT
The paper gives an insight on construction craftsmen turnover in the construction industry. In the study, the main factors responsible for craftsmen turnover, the effect of craftsmen turnover on contractors' performance and suggestions that will tackle the problem of turnover were considered. A total of 50 questionnaires were distributed and 46 of the administered questionnaire was responded to and returned. The data obtained were analysed with statistical tools such as standard deviation, mean and variance. Also pie charts, bar chart, column chart and line chart were used in presenting results. The four-point Likert scale was used to rank factors in order of their importance based on the relative Important Index (R.I.I) of the factors. The result shows that poor payment and benefits, poor treatment of workers and absence of advancement and promotion opportunities are the main cause of turnover while tribal differences and religious differences as regard cultural diversity are the main factors responsible for turnover. The study observed that craftsmen turnover has both direct cost and indirect cost effect on the performance of construction companies. Cost of hiring new employees, training of new workers and replacing old workers was shown to be the main direct cost effect on the performance of a contractor while indirect cost such as Project overtime, additional workload on remaining workers and reduction of project performance are the main effect of indirect cost. The study also shows that the problem of craftsmen turnover can be reduced by paying competitive compensation and benefit packages, fair treatment of workers and reward for dedicated workers are some of the best ways of reducing turnover while fairness, equal opportunity and respect for all and conducive workplace and cultural relation balance are ways of reducing turnover resulting from the cultural diversity of workers. The study also identified that motivation of craftsmen by increasing wages and salaries, promoting committed workers and training of craftsmen can be used to reduce the effect of craftsmen turnover. Based on the findings in the work, appropriate recommendations were being made to help tackle the challenges of craftsmen turnover in the construction industry.
Key words: Turnover, Craftsmen, Construction Industry

1.0 INTRODUCTION:

Craftsmen are the major employee of the construction industry since most of the work in the construction industry has to be done manually by hand. According to Muya et-al,(2006) the availability of craftsmen is considered as one of the most critical factors for the effectiveness of the construction industry and construction output productivity depends significantly on craftsmen but cases of craftsmen turnover is becoming a big challenge to the construction industry. Shamsuzzoha, (2007) explained that craftsmen turnover is one of the factors that affect productivity which is fast becoming a serious concern. Craftsmen turnover is the rate at which craftsmen leave an organization and are replaced or the change or movement of craftsmen within an organization or from one organization to the other. Reib (2008) defined craftsmen turnover as the degree of craftsmen replacement within and outside the organization. Sigma (2005), explained that employee turnover is the most difficult challenge faced by an organization and the causes of employee turnover is beyond the control of the employing organization. Understanding the problems associated with craftsmen turnover and measuring their factors are very significant to the success of the construction industry. Many researchers have suggested reasons behind the movement of construction workers within and outside the organization which includes that craftsmen tend to leave an organization where they are unhappy or not satisfied with Job. According to William *et.al* (2001), the wages of workers from different organization who perform similar jobs differs, a worker that receives competitive pay will have greater tendency to stay compared to workers in other organization who are underpaid. Wei and Chen (2007) stated employee turnover may be as a result of avoidable or unavoidable reasons. Unavoidable turnover of an employee may be as a result of death of an employee or organization policies; that is Organization retrenchment exercise for workers, while avoidable turnover may be due to employee dissatisfaction on the Job. Tulascz (2001) pointed some of the reasons behind workers' turnover as discontent with their direct supervisors, Job security, unfilled promises, unpaid bonuses, incompetent Leadership among others. Labour in the construction industry is an element which is not easy to manage and as such, it is the duty of the employer to ensure that everything is well coordinated and managed. The turnover cost research carried out by the Workforce Stability Institute (2000) explained that it is necessary to recruit and hire the right people to maintain a steady workforce on construction projects. Shamsuzzoha, (2007) stated that employee turnover is a terrible situation for companies which make the operation of an employer difficult to maintain. Employee turnover cause companies to incur some financial loss which will have direct and indirect cost on the organization (Morrel, *et. al*, 2004). Direct cost according to the workforce Stability Institute (2000) are cost that

can be determined and monitored which are mostly the prices paid to replace employees who leaves suddenly. Decreases in productivity and employee morale are indirect costs of turnover; they are also very important part of turnover. Hinkin, (2000) stated that indirect cost of turnover leads to decrease in productivity, project overtime and an increase in payment of those that are retained. Turnover of construction workers have an adverse effect on performance and productivity, it also reduces the profit realized by a company. Derek et al (2007) stated that employee turnover directly affects the performance of an organization. This was also supported by the regression analysis of Muhammad *et.al* (2013) that employee turnover has a relationship with organization performance. The efficiency and performance of craftsmen is mostly dependent on the management of an organization. In situations where the turnover of craftsmen is high, productivity decreases. Contractors incur costs due to turnover; costs incurred may be cost of replacing, training of new workers and preparation of relevant documents.

It is against this background that this study seeks to identify the reasons, effects, and ways of reducing crafts turnover in the construction industry so as to enhance productivity and performance of craftsmen in the Nigerian construction industry.

2.0 OBJECTIVES OF THE STUDY

1. To determine the factors responsible for craftsmen turnover.
2. To determine the effects of craftsmen turnover on contractors' performance.
3. To proffer suggestions in tackling the challenges of craftsmen turnover in the construction industry in Nigeria.

3.0 RESEARCH METHODOLOGY

Data for the study was collected via oral interviews and the use of a structured questionnaire designed to assess the views of respondents on craftsmen turnover in the construction industry with particular emphasis on the factors responsible for craftsmen turnover, the effects of craftsmen turnover on contractors performance and suggestions that will help tackle the challenges of craftsmen turn over in the construction industry. The study population was the construction craftsmen themselves. The study was carried out in Lokoja the Kogi state capital. The questionnaires were administered to the craftsmen on construction sites and in their respective companies and the construction craftsmen considered in this study are the masons, carpenters, iron/steel workers, painters, electricians and plumbers. A total of 50questionnaires were distributed. Hinkel et al (1988) however believes that the minimum sample size that allows normal distribution assumptions to be used rather than using a t-distribution is 30. Hence the sample size of 50 is justifiable.

The sample Respondents were asked to rate their level of agreement on a number of factors generated from literature review on craftsmen turn over on a four point Likert ordinal scale where 4 = Strongly Agree, 3 = Agree, 2 = Disagree and 1 = Strongly Disagree. Results obtained are presented in a tabular form, graphical charts such as Bar charts, pie charts, and column charts was used to illustrate data's for easy and clear understanding.

Data obtained from the survey were analysed using Statiscal tools such as mean, variance and standard deviation, simple percentages and Relative importance Index (RII) method. The Relative importance index (RII) was calculated using the formula:

1. R.I.I Relative Important Index = T.S / N.R
   Where T.S = Total Score, N.R = Number of Respondents.
2. (S.I) Significant Index = R.I.I / 15
   Where R.I.I = Relative Importance Index, 15 = Significant important constant

The limits of definition of S.I were: Very Significant (VS) ≥ 0.25, Significant (S) $\geq 0.20 < 0.25$, Slightly Significant (SS) $\geq 0.15 < 0.20$

4.0 RESULTS AND INTERPRETATION

4.1 CRAFTSMEN DISTRIBUTION OF RESPONDENTS

A total of fifty (50) questionnaires were administered to the construction craftsmen in Lokoja out of which a total of 46 duly completed questionnaires were returned.

Table 1 and figure 1 below shows the distribution of craftsmen from the number of construction companies sampled within the city. The results show that mason/bricklayers and carpenter has the highest number of respondents of 15 and 9 respectively with their percentages amounting to 32.6% and 19.6% respectively followed by Electricians with 7 respondents and 15.2%, painters has respondents with 13.0 % and plumber has 4 respondents with 8.7% . Roofers and iron steel workers has the least number of respondents of 3 and 2 with percentages of 6.5% and 4.4% respectively.

Table 1. Craftsmen Distribution of Respondents

CRAFTSMEN	NO OF RESPONDENTS	PERCENTAGE OF RESPONDENTS
Mason/Bricklayers	15	32.6
Roofers	3	6.5
Carpenters	9	19.6
Iron/steel workers	2	4.4
Painters	6	13.0
Electricians	7	15.2
Plumbers	4	8.7
TOTAL	**46**	**100**

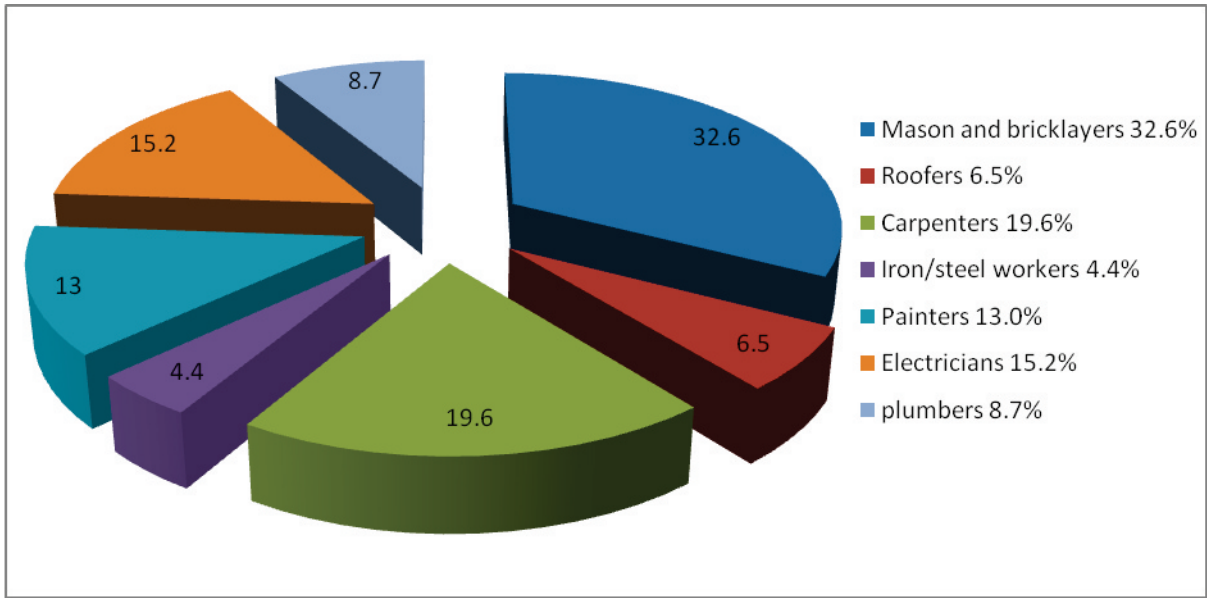

Figure 1. Craftsmen distribution of questionnaires

4.2 FACTORS RESPONSIBLE FOR CRAFTSMEN TURNOVER

The Reponses were then ranked for comparison of the factors. The result shows that factors which are of very significance importance are Poor payment and benefits to workers (R.I.I=3.89, S.I=0.26), Poor treatment by supervisors (R.I.I=3.85, S.I=0.26), and Absence of Advancement and promotion opportunities (R.I.I=3.78, S.I=0.25) with ranking from 1st to 3rd respectively. These results is consistent with previous study by Arie and Erick (2013). Factors such as Company policies (R.I.I=3.63, S.I=0.24), Poor social connection and interaction (R.I.I=3.50, S.I=0.23), Poor working environment (R.I.I=3.41, S.I=0.23), Work overtime (R.I.I=3.35, S.I=0.22), and poor working tools and equipment (R.I.I=3.26, S.I=0.22) shows a significant importance of the factors with ranking from 4th to 8th respectively. Factors such as Arrival of workers and No employee engagement have the same Relative importance index and significant importance (R.I.I=3.24, S.I=0.22) were ranked 9th. Poor health of workers is the least ranked with (R.I.I=3.22, S.I=0.22).

Table 2.0 Ranking of Factors Responsible for Craftsmen Turnover

Factors	S.A **4**	A **3**	D **2**	S.D **1**	N.R	T.S	R.I.I	S.I	RANK	RMK
Poor working environment	20	25	1	-	46	157	3.41	0.23	6TH	S
Work Overtime	16	30	-	-	46	154	3.35	0.22	7TH	S
Arrival of new workers	19	21	4	2	46	149	3.24	0.22	9TH	S
Poor health of workers	14	29	2	1	46	148	3.22	0.22	11TH	S
Poor payment and benefits	41	5	-	-	46	179	3.89	0.26	1ST	VS
Non employee engagement	18	23	3	2	46	149	3.24	0.22	9TH	S
Absence of advancement and promotion opportunities	36	10	-	-	46	174	3.78	0.25	3RD	VS
Company policies	31	13	2	-	46	167	3.63	0.24	4TH	S
Poor social connection and interaction	24	21	1	-	46	161	3.50	0.23	5TH	S
Poor treatment from supervisors	39	7	-	-	46	177	3.85	0.26	2ND	VS
Poor working tools and equipment	24	15	4	1	46	150	3.26	0.22	8TH	S
Mean					160.50	3.488	0.2336			
Variance					142.50	0.067	0.00027			
Std. deviation					11.94	0.259	0.0163			

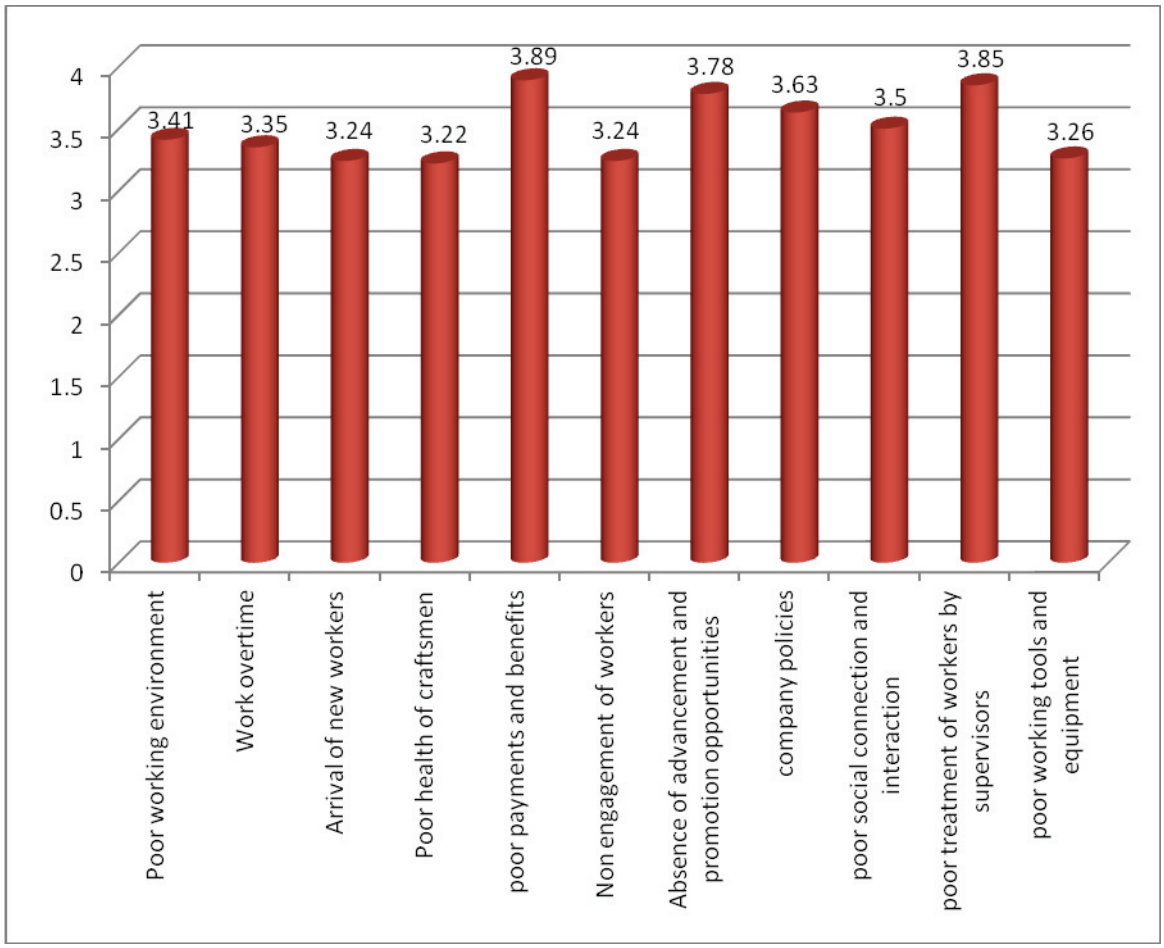

Figure 2. factors responsible for craftsmen turnover

4.3 EFFECTS OF CRAFTSMEN TURNOVER ON CONTRACTORS' PERFORMANCE

The effects of craftsmen turnover on contractor's performance are categorized into two (2) which are Direct and Indirect costs. Direct costs are costs that can be measured and quantified while indirect costs are costs that are difficult to measure or quantify. The Reponses were then ranked for comparison of the factors in each category.

4.3.1 Direct cost ranking

The result shows that the direct costs effects on contractor's performance are all of significant importance as regard the effect of craftsmen turnover on contractor's performance. Hiring of new employees is ranked 1st with (R.I.I=3.52, S.I=0.24) as the main direct cost effect on contractors performance. Training of new employees and Replacement of old workers have the same value of significant important which were ranked 2nd and 3rd with (R.I.I=3.24, S.I=0.22) and (R.I.I=3.22, S.I=0.22) respectively. Administrative costs and Marketing costs also have the same value of significant importance which was ranked 4th and 5th with (R.I.I=3.15, S.I=0.21) and (R.I.I=3.50, S.I=0.23) respectively. Preparing new employee files have the least ranking of 6th with (R.I.I=2.98, S.I=0.20).

Table 3. Ranking of Direct Cost Effects of Craftsmen Turnover on Contractors Performance

Factors	S.A	A	D	S.D	N.R	T.S	R.I.I	S.I	RNK	RMK
Direct Cost	**4**	**3**	**2**	**1**						
Hiring new employees	26	18	2	-	46	162	3.52	0.24	1ST	S
Training of new workers	19	21	4	2	46	149	3.24	0.22	2ND	S
Replacement of old workers	15	28	2	-	46	148	3.22	0.22	3RD	S
Preparing new employees files	12	24	7	3	46	137	2.98	0.20	6TH	S
Administrative cost	9	35	2	-	46	145	3.15	0.21	4TH	S
Marketing cost	15	24	4	3	46	143	3.11	0.21	5TH	S
Mean						147.333	3.2033	0.21667		
Variance						69.867	0.0327	0.00019		
Std. deviation						8.359	0.1808	0.0138		

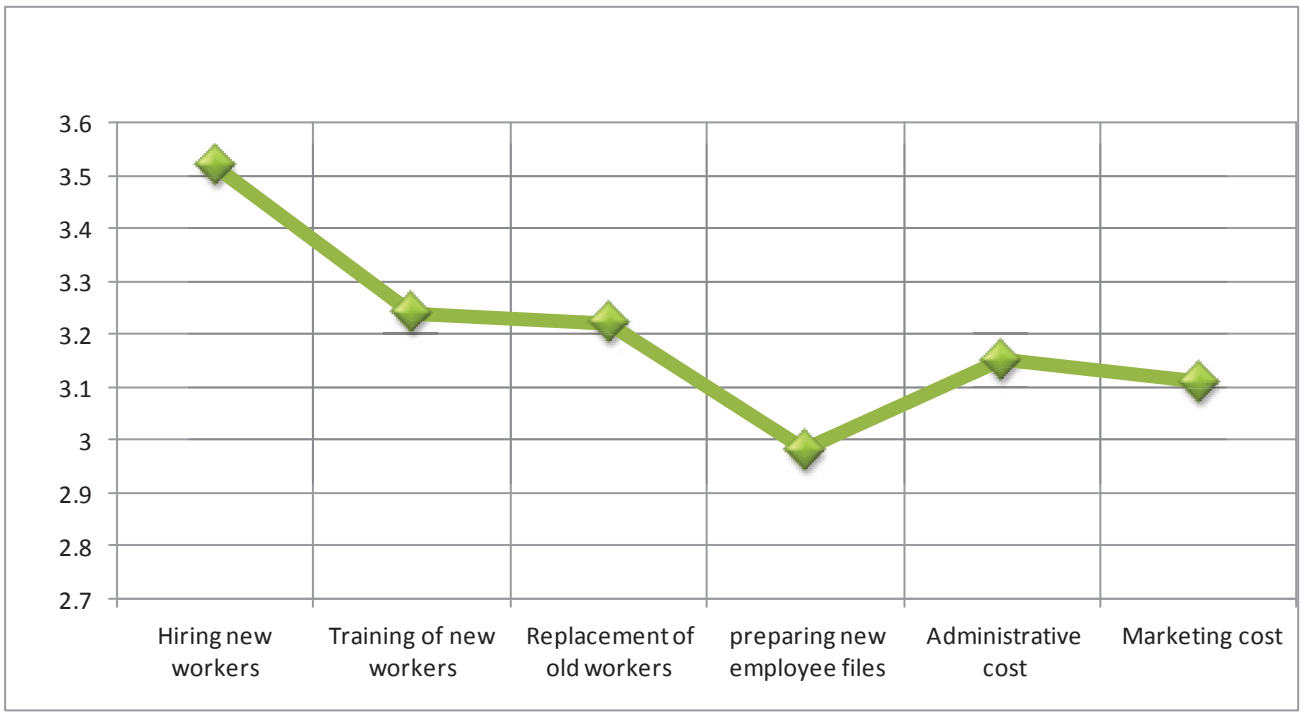

Figure 3. Ranking of direct cost effect on contractor's performance

4.3.2 Indirect cost

The result shows that the dominant effect of indirect costs on contractor's performance is Project Overtime which was ranked 1st with (R.I.I=3.41, S.I=0.23), it is of significant importance. Additional workload on remaining workers which is of significant importance was ranked 2nd with (R.I.I=3.37, S.I=0.23). Factors such as Reduced project performance and Degenerate product and service quality have the same value of significant important which were ranked 3rd and 4th with (R.I.I=3.30, S.I=0.22) and (R.I.I=3.28, S.I=0.22) respectively. Bad reputation to contractor is ranked 5th with (R.I.I=2.98, S.I=0.20). The least of the ranking is Decreased employee morale with (R.I.I=2.48, S.I=0.17) which is ranked 6TH.

Table 4, Ranking of Indirect Cost of Craftsmen Turnover on Contractor's Performance

Factors	S.A	A	D	S.D	N.R	T.S	R.I.I	S.I	RNK	RMK
Indirect Cost	**4**	**3**	**2**	**1**						
Project Overtime	20	25	1	-	46	157	3.41	0.23	1ST	S
Reduced project performance	15	30	1	-	46	152	3.30	0.22	3rd	S
Decreased Employee morale	13	17	5	1	46	114	2.48	0.17	6th	SS
Additional Workload on remaining workers	19	25	2	-	46	155	3.37	0.23	2nd	S
Degeneration product and service quality	16	27	3	-	46	151	3.28	0.22	4TH	S
Bad reputation to organization.	9	29	6	2	46	137	2.98	0.20	5TH	S
Mean					144.33	3.137	0.21167			
Variance					270.27	0.126	0.00054			
Std. deviation					16.44	0.355	0.0234			

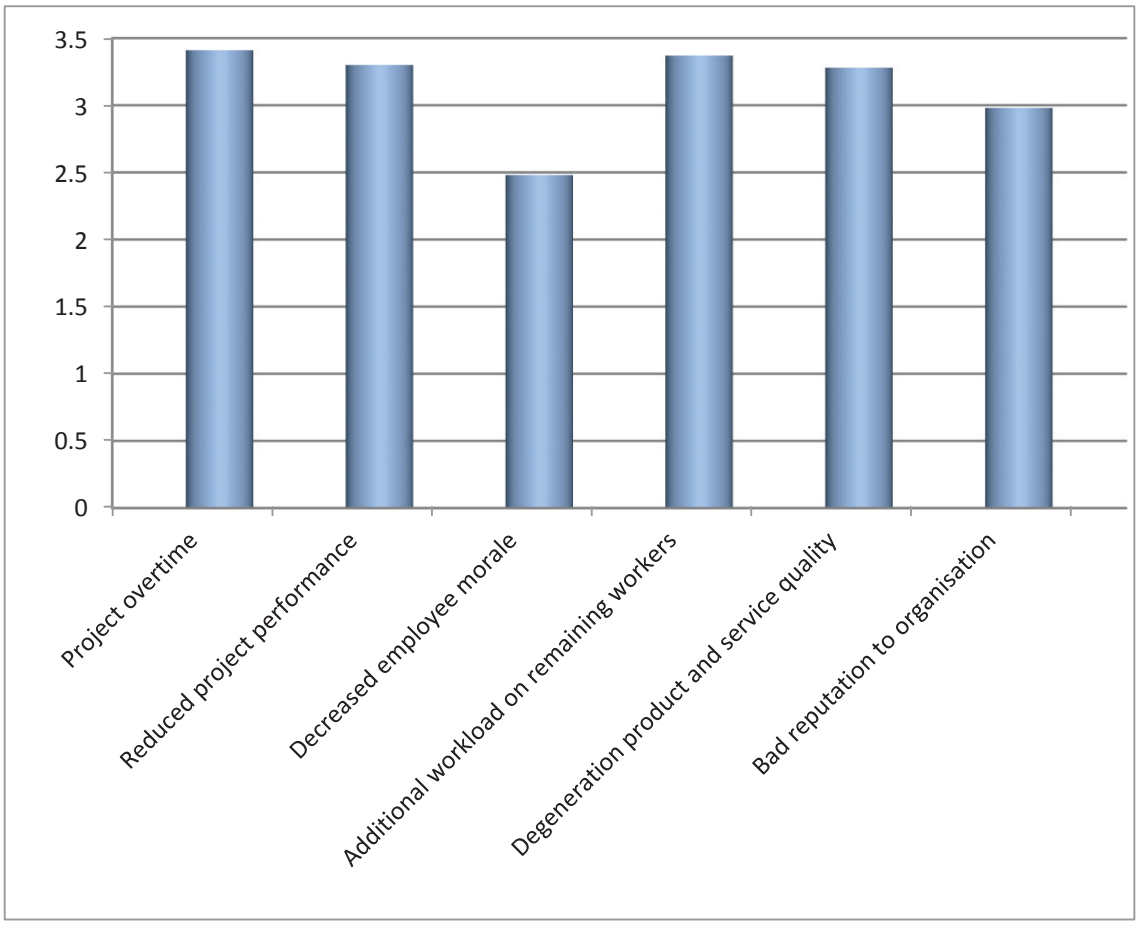

Figure 4. Ranking of Indirect Cost Effect of Craftsmen Turnover on Contractor's Performance

4.3.3 Ranking of Direct cost and Indirect cost

The combined ranking of the direct cost and indirect cost effect on contractor's performance shows that Hiring of new employees with (R.I.I=3.52, S.I=0.24) is the main cost effect on contractors performance which is a

direct cost and it was ranked 1st. Project Overtime with (R.I.I=3.41, S.I=0.23) is ranked 2nd. Additional workload on remaining workers which is of significant importance was ranked 3rd with (R.I.I=3.37, S.I=0.23). Factors such as Reduced project performance and Degenerate product and service quality were ranked 4th and 5th with (R.I.I=3.30, S.I=0.22) and (R.I.I=3.28, S.I=0.22) respectively. Training of new employees and Replacement of old workers with the same value of significant important were ranked 6th and 7th with (R.I.I=3.24, S.I=0.22) and (R.I.I=3.22, S.I=0.22) respectively. Administrative costs was ranked 8th with (R.I.I=3.15, S.I=0.21). Marketing costs was ranked 9th with (R.I.I=3.11, S.I=0.21). Preparing new employee files and bad reputation to contractors have the same relative importance index and significant importance with (R.I.I=2.98, S.I=0.20) which are both ranked 10th. The least of the ranking is Decreased employee morale with (R.I.I=2.48, S.I=0.17) which is ranked 12th, it is the only factor which is slightly significant.

Table 5. General Ranking of Direct and Indirect Cost effects on Contractor's Performance

EFFECTS	FACTORS	N.R	T.S	R.I.I	S.I	RANK
Direct cost	Hiring new employees	46	162	3.52	0.24	1ST
	Training of new workers	46	149	3.24	0.22	6TH
	Replacement of old workers	46	148	3.22	0.22	7TH
	Preparing new employees files	46	137	2.98	0.20	10TH
	Administrative cost	46	145	3.15	0.21	8TH
	Marketing cost	46	143	3.11	0.21	9TH
Indirect cost	Project Overtime	46	157	3.41	0.23	2ND
	Reduced project performance	46	152	3.30	0.22	4TH
	Decreased employee morale	46	114	2.48	0.17	12TH
	Additional workload on remaining employees	46	155	3.37	0.23	3RD
	Degenerate product and service quality	46	151	3.28	0.22	5TH
	Bad reputation to contractor	46	137	2.98	0.20	10TH
Mean		145.833	3.17	0.214		
Variance		157.061	0.0735	0.00034		
Std. deviation		12.532	0.2711	0.08439		

4.6 REDUCTION OF CRAFTSMEN TURNOVER

The result shows that all the factors are significant except Paying competitive compensation and benefit packages which is very significant, it was ranked 1st with (R.I.I=3.70, S.I=0.25), fair treatment by supervisors was ranked 2nd with (R.I.I=3.65, S.I=0.24), Reward for dedicated workers was ranked 3rd (R.I.I=3.46, S.I=0.23), creating advancement and promotion opportunities was ranked 4th with (R.I.I=3.41, S.I=0.23), Provision of positive work environment was ranked 5th with (R.I.I=3.39, S.I=0.23), Review of compensation and benefit packages annually was ranked 6th with (R.I.I=3.35, S.I=0.22), reduce working hours was ranked 7th with (R.I.I=3.28, S.I= 0.22), Review of company policies(retrenchment exercises) was ranked 8th with (R.I.I=3.20, S.I=0.21), Hiring competent and dedicated workers was ranked 9th with (R.I.I=3.17, S.I=0.21), Social interaction with employees was ranked 10th with (R.I.I=3.11, S.I=0.21), effective communication with employee was ranked 11th with (R.I.I=3.20, S.I=0.20) and the least of the ranking is Paying attention to personal needs of workers. All this factors will help to reduce craftsmen turnover in the construction industry.

Table 6. Ranking of Factors that will Reduce Craftsmen Turnover

FACTORS	S.A 4	A 3	D 2	S.D 1	N.R	T.S	R.I.I	S.I	RNK	RMK
Hiring competent and dedicated workers	13	29	3	1	46	146	3.17	0.21	9TH	S
Paying competitive compensation and benefit packages	32	14	-	-	46	170	3.70	0.25	1ST	VS
Provision of positive work environment	18	28	-	-	46	156	3.39	0.23	5TH	S
Reward for dedicated workers	21	25	-	-	46	159	3.46	0.23	3RD	S
Paying attention to personal needs of workers	7	32	5	2	46	136	2.96	0.20	12TH	S
Reduced working hour	15	29	2	-	46	151	3.28	0.22	7TH	S
Review of compensation and benefit packages annually	20	23	2	1	46	154	3.35	0.22	6TH	S
Provision of working tools and equipment	6	36	2	2	46	138	3.00	0.20	11TH	S
Creating advancement and promotion opportunities	20	25	1	-	46	157	3.41	0.23	4TH	S
Regular communication with workers	4	39	1	2	46	137	3.00	0.20	11TH	S
Social interaction with workers	10	32	3	1	46	143	3.11	0.21	10TH	S
Review of company policies	14	28	3	1	46	147	3.20	0.21	8TH	S
Proper treatment of workers by supervisors	30	16	-	-	46	168	3.65	0.24	2ND	S
Mean						150.923	3.283	0.219		
Variance						123.244	0.0572	0.0003		
Std. deviation							11.102	2.3917	0.017	

5. CONCLUSION AND RECOMMENDATIONS

The research work studied craftsmen turnover in the construction industry. Findings show that the factors responsible for craftsmen turnover in the construction industry are: Poor payment and benefits, Poor treatment by supervisors, Absence of Advancement and promotion opportunities, Company policies, Poor social connection and interaction, Poor working environment, Work overtime, poor working tools and equipment, Arrival of workers, Non employee engagement, and Poor health of workers. The study also established that the main effect of craftsmen turnover on contractor's performance is classified into direct costs and indirect costs. Direct costs are; hiring of new employees, Training of new employees, Replacement of old workers, Administrative costs and Marketing costs. Indirect costs include: Project Overtime, Additional workload on remaining workers, reduced project performance, Degenerate product, service quality, Bad reputation to contractor and Decreased employee morale. Furthermore, the research identifies the following measures as ways by which craftsmen turnover can be reduced; Paying competitive compensation and benefit packages, fair

treatment by supervisors, Reward for dedicated workers, creating advancement and promotion opportunities, Provision of positive work environment , Review of compensation and benefit packages annually, reduce working hours, Review of company policies(i.e retrenchment exercises), Hiring competent and dedicated workers, Social interaction with employees, effective communication with employee, and Paying attention to personal needs of workers. All this factors will help to reduce craftsmen turnover in the construction industry.

The study recommends that Construction firms should provide incentives so as to motivate construction craftsmen. Employers should treat their workers with respect, give equal opportunity to all craftsmen and embrace cultural diversity. There should be an agreement between construction firms and craftsmen on duration of a craftsman involvement in a project. Construction companies should recruit competent and skilled workers and also provide training programs to craftsmen. Government should pay off debts owed to contractors in other to prevent retrenchments of craftsmen as a result of the inability to pay salaries and wages. Employers should review and pay competitive wages and benefit packages of craftsmen.

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