

Impact of Builder's Emotional Intelligence on Site Workers Performance in Nigeria Construction Industry

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Abstract-The study looked into emotional intelligence of builders and how it affects the performance of site workers. The primary objective was to determine the relationship between Builder's emotional intelligence and site workers performance; to confirm the Builder's emotional intelligence attributes and the secondary objective was to confirm the impact of years of experience, educational and professional qualifications on Builder's emotional intelligence. The same sets of questionnaires were given to the Builders and their site workers in which the Builders perspective and the workers perspective of their project supervision were sought. Spearman correlation coefficient was used to determine the relationship between builders' Emotional Intelligence and the performance of site workers, which was positive. Pearson product moment correlation was used to determine the relationship between builders' Emotional Intelligence and their years of experience, academic and professional qualifications, which results were negative. There is a need to recognize emotional intelligence as an important instrument in increasing workers performance on which the overall success of the project depend. However Builders that lack emotional intelligence should challenge themselves by training to become emotionally intelligent.

KEYWORDS: Builder, Emotional Intelligence, Performance, Productivity, Workers, stakeholders

1 INTRODUCTION

SUCCESS in any human endeavor depends on 87% human relation, while the remaining 13% is technical knowhow as postulated by [9]. Emotional intelligence is the ability of the leader to make is followers work more than they would not have done ordinarily without additional remuneration as explained by [5]. In essence, since emotional intelligence has become a household name, it has been accepted to increase effectiveness and productivity to the benefit of all stakeholders. Leaders' Emotional intelligence make workers to work above their technical capabilities, and they are able to cope with pressures that may affect their level of performance as explained by [3].

Emotional intelligence has been the most current search for perfection to increase performance and productivity in all areas of human endeavor in which building industry should not be left out. The building industry is a unique as it is bedeviled with perennial problems that emerge all the time like time overrun cost overrun low quality of jobs and stakeholders dissatisfaction, which has been the major concern to all people both inside and outside the industry. Many researches have been carried out without lasting solution, and it cannot stop as long as it is on human endeavor. Human effort in still the most important tool in achieving perfection in the construction industry therefore, the states of mind and emotions of those workers must be stable to achieve success. The man in charge of building production processes has a lot at stake as he is faced with challenges of satisfying all diverse situations that pervade the projects all the time, like the project sponsors, project protagonists, planning Authority, project consultants, not to talk of the Builder's immediate constituency. The above situations has made this study imperative at this particular time that the industry will improve sporadically if it adhere to the recommendations suggested at the conclusion of the study. However, the primary objective of the study is to determine the Builder's emotional intelligence attribute, and the relationship between Builder's emotional intelligence, and site workers performance and the secondary objective is to determine if there is any relationship between Builder's years of experience, academic and professional qualifications and their level of emotional intelligence. The study will offer better understanding of Builder's Emotional intelligence and how to manage their relationship with site workers in the Building industry and develop necessary programs and staffing of Builders in the construction industry. Emotional intelligence relevance in the

construction industry will be appreciated and consequently accepted as a standard for employing project site leaders

2 LITERATURE REVIEW

2.1 The Concept of Emotional Intelligence

Hur and Wilderman [6] claimed that it was the research that Salovey and Mayer carried out in the 1990 that emotional intelligence was defined as "as sub set of social intelligence that involves the ability to monitor one's own and other people's feelings and emotions to discriminate among them and to use this information to guide one's thinking and actions." [5] later redefined Emotional intelligence by adding value of substances to it, as he defines as "managing of feelings so that they are expressed appropriately and effectively, enabling people to work together smoothly toward their common goal". Further explanation focused on the benefits of high degree when the emotions of subordinates are moderated by the leader's emotional competence exhibited. In order to achieve effective control the supervisor's. Emotional Intelligence must be maintained in interacting with the site workers who will naturally object to their leaders authority until something more than ordinary is gained as postulated by [3].

Builder's major role in Building construction industry is to manage the production processes, which the workers under supervisor's leadership must carry out to the expected standard. Builder's leadership role is well established in this regard, and when technical knowledge is concerned results are achieved through the site workers. Furthermore, his leadership role is to manage his own emotional attributes to make the people with direct technical knowhow do the job to the satisfaction of all stakeholders. The above statement is in agreement with what [3] explained that the greatest assets to achieve success in any undertaken are the people, who directly carry out the job. Stock [13] divided Emotional intelligence into two major parts, which are intrapersonal and interpersonal. Intrapersonal is divided into three parts namely self-awareness, self-regulation and emotional self-motivation and Interpersonal being the foundation from which interpersonal skills like empathy and managing of relations emerged.

2.2 Emotional Intelligence Content

According to Boyatzis et al [1] [5], [15], [7], [10], [4], [12], [2], [14], [8] and [6] all agree on the content of Emotional intelligence which are self-awareness as the ability of individuals identifying and understanding his emotions and the extent to which these feelings affect other people in performing their job to the merit of all stake holders. Self-regulation is the ability to adjust our feelings to meet the present situation positively. This regulation is most important when a situation makes you get annoyed and instead of reacting you acted on this situation positively without really offending the feelings of your workers; self-motivation – in the ability to use your feeling positively even when negative emotions arises, it culminates to challenges that must be overcome. Self-motivation makes a leader to behave responsively by following through the plans, focus on the task, behave less impulsively and improving on achievement; social awareness – is the ability to know, understand and recognize the feelings of others especially your subordinates. This naturally develop after the foundation (intrapersonal) has been fully acknowledged and used, which leads to genuinely listening to your subordinate, being sensitive to their feelings and taking their perspective: social skill- is the ability to manage the relationship we have with other people effectively. It leads to improve productivity when we understand other people, relationships and resolve conflict as at when due; solve relationship problems and being concerned and considerate of others to the advantages of all stake holders. The table below shows Daniel Goleman explicit detail on Emotional Intelligence attributes

**TABLE 1
GOLEMAN EMOTIONAL INTELLIGENT FRAMEWORK**

Self-awareness: knowing one's Internal state performance Resources and intuition	Self-management managing one's internal state impulses and resources
Emotional awareness: recognizing One's emotion and their effects	Emotional self-control: keeping disruptive emotion and impulse and resources
Accurate self-assessment: knowing One's strength and limits Self-confidence: a strong sense of One's self-worth and capabilities	Transparency: maintaining integrity acting congruently with one's value Adaptability: flexibility in handling change Achievement: striving to improve or meeting a standard of excellence Initiative: readiness to act on opportunities Optimism: persistence in pursuing goals despite obstacles and setback
Social awareness: refer to how People handle relationship and Awareness of others feelings Needs and concerns	Relationship management: concern for the skill or adeptness at inducing desirable response in others
Empathy: sensing others feeling And perspective and taking an Active interest in their concerns	Developing others: sensing others development needs and bolstering their abilities.
Organizational awareness: reading A groups emotional currents and Power relationship	Inspirational leadership: inspiring and guiding individuals and groups
Services orientation: adapting Recognizing and meeting Customers' needs	Change catalyst: initiating or managing change Conflict management: negotiating and resolving disagreement Team work and collaboration: working with others towards shared goals. Creating group synergy in pursuing collective goals

Source: Goleman D. (2000): *Leaders That Get Result. Harvard Review March-April 2000. P1-17*

3 RESEARCH METHODS

The research was conducted to know the emotional intelligence of builders and its impact on the performance of site workers. Total number of 46(49)% out of 94 questionnaire were returned by builders managing production process of projects in which reasonable numbers of site workers were engaged and total number of questionnaire given to workers are 104 out of which 75(70%) were returned. The same type questionnaires were given to the Builders –who were in charge of building production management to determine their emotional intelligence and the site workers to assess their project supervisor. The demographic information includes i academic qualification, ii years of experience after graduation; and professional qualification. The questionnaire on emotional intelligence has five main parameters namely; social awareness with four-sub variables; social skill with six sub-variables; self-awareness with three sub-variable; self-management with six sub-variables and self-motivation with two sub-variables. Likert scale was used, in which the respondents were required to respond in terms of scale 1(minimum) to 5 (maximum)in order to calculate the index average.

Spearman correlation coefficient was used to determine whether there is any form of relationship between the opinion of builders and the site workers on the impact of Builder's emotional intelligence on performance of site workers. While Pearson product moment correlation coefficient was used to determine the relationship between Builder's emotional intelligence and their years of experience, academic and professional qualifications. The hypotheses stated below were used to answer the research questions.

- Hypothesis 1: *Builders emotional intelligence is positively related to workers' productivity.*
- Hypothesis 2: *Builders' emotional intelligence is positively related to their years of experience in the industry.*
- Hypothesis 3: *Builders' emotional intelligence is positively related to their academic qualifications.*
- Hypothesis 4: *Builders' emotional intelligence is positively related to their professional qualifications.*

The following equations were used to determine spearman coefficient of correlation and the first Hypothesis.

- 1) $R_s = 1 - 6 \sum d^2 / (n^3 - n) \dots \dots \dots (1)$
- 2) $t - \text{Test at 95\% confidence of null hypotheses } (H_0) \text{ and alternative } (H_1) \text{ was used to test the rank correlation coefficient. Also using these two values } a=0.05 \text{ and } df 20 - 2 = 18$
- 3) $t = r_s \sqrt{n-2} / 1-r_s^2 \dots \dots \dots (2).$

The equation below- Pearson product moment correlation- was used to determine the relationship between emotional intelligence and years of experience, academic and professional qualifications and their hypotheses

- 4) $r = \frac{n \sum xy - \sum x \sum y}{\sqrt{n \sum x^2 - (\sum x)^2} \times \sqrt{n \sum y^2 - (\sum y)^2}} \dots \dots \dots (3)$
- 5) $t = r_s \sqrt{n - 2} / 1 - r_s^2 \dots \dots \dots (4)$

4 DATA ANALYSES

Table 2 Shows the first qualifications of all Builders that returned their questionnaires and the correlation factor used to determine the relationship between level of emotional intelligence and academic

qualification. Twenty one of the respondents have HND and that is 46% of the population. While the Bsc holders were twenty five that is 54% of the population. The correlation factor for HND is 4 and Bsc is 5.

TABLE 2
BUILDER'S QUALIFICATION AND THEIR CORRELATION FACTOR

Aca. Q	Ques. Re.	Percent	Add. Qua.	Corr. Factor
HND Building Tech	21	46	6	4
Bsc. Building/building Tech.	25	54	4	5

Note: Aca Q- Academic Qualification; Qus Re- Questionnaire Returned; Percent-Percentage; Add Qual-Additional Qualification; Corr. Factor-Correlation Factor

Table 3 below, shows that 78% of the respondent have additional qualification from different relevant areas like construction Tec. 3% construction management 42%, project management 31%, MBA 6%, Environmental Management 3%, Housing 8%, and Phd. 8%. The correlation factor for relevant masters programs was given 7 points, while the irrelevant ones were given 6 points and Doctor of Philosophy was given 8 points.

TABLE 3
ADDITIONAL ACADEMIC QUALIFICATION

Additional Qualification	Number	Percent	Corr. Factor
Msc. Const. Technology	1	3	7
Msc. Const. Management	15	42	7
Master in Proj. Management	11	31	7
MBA	2	6	6
Master in Environmental Mgt.	1	8	6
Msc. Housing	3	8	6
Phd.	3	8	8
	36/46	78%	

Table 4 indicated that 33% of the respondents are Associate number, 60% are corporate members and the remaining 7% are fellows of the Nigeria institute of building.

TABLE 4.
PROFESSIONAL QUALIFICATION OF ALL RESPONDENTS

Prof. Qualification	Number	Percentage	Correlation Factor
Licentiate	0	0	0
Associate	10	33	4
Corporate	18	60	5
Fellow	2	7	6
	30	100	

Table 5, shows, years of experience of all respondents, 13% of all respondents has been 6-10 years working experience and all of them are associate members. The next is 41% for the respondents that have between 11 to 15 years working experience out of which four of them are associates and fifteen are corporate members. Others are 28% have between 16 to twenty years of working experience and all of them are corporate members. The remaining 18% have above twenty year of experience and corporate members and fellows have four respondents each.

Table 5
YEARS OF EXPERIENCE OF RESPONDENTS

Y of Exp.	Lic.	Ass.	Corp.	Fellow	%	Corr. Factor
1-5years	0	0	0	0	0	1-5
6-10years	0	6	0	0	13	6-10
11-15years	0	4	15	0	41	11-15
16-20years	0	0	13	0	28	16-20

Above 20year	0	0	4	4	18	20-00
	0	10	32	4	100	

Results on builders and workers perception on Builder's Emotional intelligence

Table 6 below shows the weighted average ranking order of all sub parameters. The first according to the two sets of respondents is that the builders recognizes the clients' needs and respond to it (3.70), followed by the ability of the builders to manage their emotions and responsibilities (3.54) and the third being that they understand organizational politics to make the decision to increase productivity of site workers (3.53). Others are that they keep disruptive positions and impulse under control(3.52); adjusting to changing situations and understanding workers perspective(3.45); sensing workers emotions and understanding their perspectives(3.42); meeting internal standards of excellence(3.41); readiness to seize opportunities(3.40); builders understand their own position emotionally(3.32) and the tenth is that they consistently display honesty and integrity(3.32). Weighted average below 3.00 is suggested to be low to this show the problem areas, which indicated that builders don't resolve conflicts among their workers as expected of them and the worst situation is that builders are not very good at cultivating and maintaining a web of relationship.

TABLE 6
BUILDERS AND SITE WORKERS WEIGHTED AVERAGE ON BUILDER'S EMOTIONAL INTELLIGENCE ATTRIBUTE

Parameters	Builders'		Workers'		Weighted Av.	
	Mean	R	Mean	R	Mean	R
Recognizes and meet clients' need ability to manage oneself and responsibility	3.87	1	3.52	1	3.70	1
Understanding organizational politics to make decision	3.73	2	3.35	3	3.54	2
Keep disruptive positions and Impulses under control	3.67	4	3.40	2	3.53	3
Adjusting to the changing situation and overcoming obstacles	3.71	3	3.32	5	3.53	4
Sensing Artisans' emotions and understanding their perspective	3.56	8	3.34	4	3.45	5
Meeting internal standard of Excellence	3.58	7	3.26	6	3.42	6
Readiness to seize opportunities	3.59	6	3.23	7	3.41	7
Understanding your position emotionally	3.64	5	3.14	8	3.40	8
Consistent display of honesty and Integrity	3.54	11	3.10	10	3.30	9
Listening and sending a clear message	3.55	10	3.05	11	3.30	10
realistic evaluation of your strength and limitation	3.55	9	2.99	16	3.27	11
have strong and positive sense of self-worth	3.33	15	3.11	9	3.22	12
change and inspire with a compelling vision	3.41	12	3.02	14	3.215	13
propensity to bolster abilities through feedback and guidance	3.34	14	3.04	12	3.19	14
initiating new ideas and leading Artisans in a new direction	3.41	13	2.89	17	3.15	15
Wield a range of persuasive tactics	3.22	17	3.03	13	3.13	16
Competency in promoting Cooperation building team	3.31	16	2.92	20	3.12	17
Ability to stop and solve the conflict	3.06	18	3.00	15	3.03	18
Good at cultivating and maintaining A web of relationship	2.98	19	2.86	19	2.92	19
	2.96	20	2.88	18	2.92	20

Source; Ogunbayo, 2012

Test of hypothesis 1

H₀: there is no relationship between builder's emotional intelligence attribute and the workers' productivity.

TABLE 7
TEST OF AGREEMENT ON OPINION OF BUILDERS AND SITE WORKERS

Group	rs	t-cal	t-tab	reject H ₀	p-value
Builders and site workers	0.86	14.11	2.101	Yes	0.05

The observation is significant since the calculated t-value is (14.011) greater than t-value (2.101) tabulated. H₀ is rejected and H₁ accepted, as the research suggest that there is a significant relationship between Builder's Emotional intelligence and workers' productivity.

Table 8 shows Builders' emotional intelligence as perceived by the respondents. Social skill is ranked one, which is an indicator that builders manage their relationship with their workers by giving them a compelling vision and maintaining close interpersonal relationship with a weighted average of 3.55 followed by self-management of builders, 3.44; self-awareness, 3.25; social awareness 3.13 and the least self-motivation 2.97.

TABLE 8
BUILDERS EMOTIONAL ATTRIBUTES ON MAIN PARAMETERS

Main Parameter	Builder"		Workers"		Weighted Average	
	Mean	R	Mean	R	Mean	R
Social skill	3.70	1	3.39	1	3.55	1
Self-management	3.36	2	3.24	2	3.44	2
Self-awareness	3.43	3	3.08	3	3.25	3
Social awareness	3.30	4	2.96	4	3.13	4
Self-motivation	3.01	5	2.92	5	2.97	5

Source Ogunbayo, 2012.

Test of hypothesis on hypothesis 2, 3 and 4

Table 9 Pearson product moment coefficient of correlation shows that there is very a low linear relationship between Builder's level of emotional intelligence attributes and their years of experience in the building industry. While the correlation between level of emotional intelligence attribute and professional qualification and academic qualification were negative. This means that emotional intelligence development has nothing to do with years of experience in the industry, academic qualification and professional qualification of the respondents. Linear relationship means that increase in academic, professional qualification or years of experience in the building industry has no impact on level of emotional intelligence of Builders. In the table below it clearly shows that other factor that contribute to their level of emotional intelligence of all respondents (Builders) is completely different from the three stated parameters and all the unknown attributes are subjects of future research.

TABLE9
PEARSON PRODUCT MOMENT COEFFICIENT OF CORRELATION RESULT

Parameters	x	y	x ²	y ²	xy	r	r ²	1-r ²
EI (x) & YE(y)	157	639	24649	408321	2204	2.3x10 ⁴	5.2x10 ⁻⁸	99.99%
EI(x) & EQ(y)	157	296	24649	87616	1010	5.7x10 ⁻³	3.2x10 ⁻⁵	99.99%
EI (x) & PQ(y)	105	131	11025	17161	458	3.8x10 ⁻⁵	1.04x10 ⁻⁹	99.99%

Note; EI-Emotional intelligence level; YE-Years of Experience; EQ-Educational Qualification; PQ-Professional Qualification.

TABLE 10
TEST OF HYPOTHESIS 2, 3 AND 4

Parameter	rs	t-cal	t-tab	Accept H ₀	P-value
Emotional intelligence & years of experience	2.3x10 ⁴	5.7 x10 ⁻³	2.014	No	0.05
Emotional intelligence &Academic Qualification	5.7x10 ⁻³	(0.038)	2.014	No	0.05
Emotional intelligence & professional qualification	3.8x10 ⁻⁵	(2.5x10 ⁴)	2.014	No	0.05

Source: Ogunbayo, 2012.

The observations are not significant since the t-tabulated are higher than t-calculated, therefore H₀ is accepted and H₁ rejected. The situation shows that there is no relationship between Builder's emotional intelligence and their years of experience, academic and professional qualifications.

5 DISCUSSIONS OF FINDINGS

The study was conducted to elicit relevant information on Builders emotional intelligence and its impact on workers' productivity. Out of 94 questionnaires sent out only 46 questionnaires were returned by the Builders and 104 questionnaires only 75 were returned by site workers. The result of the primary objective showed that the builders emotional intelligence increase workers' productivity while in the secondary objective there no relationship between Builders' level of emotional intelligence and their years of experience, academic and professional qualifications. On the emotional intelligence attribute showed that the builders exhibit more of social skill with weight average of 3.55 followed by self-management with 3.44. Others are self-awareness which has 3.25, social awareness 3.13 and self-motivation (2.97). These findings indicate that builders manages relationship effectively in all circumstances, followed by self-management in which they tolerate frustration, anger, avoid put downs, express anger without fighting and the third is the self-awareness, meaning that they recognize their own feelings. Others are social awareness, which means they recognize and manage their workers emotions by resolving conflict skillfully, solving relationship problems, being harmonious and considerate. The last of the ranking is self-motivation, which is when the Builders are good at cultivating a web of relationship and encourage cooperation among workers.

The result from the sub variables in that recognition of the client is the most important attribute of the builders followed by they manage themselves and their responsibilities very well; they understand organizational politics and that they keep disruptive positions and impulses under control. The stated attributes ranked the best from 1 to 4 and the worst are looked at from the rear, they are not that good at cultivating and maintaining a web of relationship and they are not good at stopping and resolving conflicts with the 2.90 for each and 19th and 20th in the ranking order.

6 RECOMMENDATIONS.

Emotional intelligence has been accepted by researchers as a better tool than other intelligent attributes to increase productivity and performance. It is important that emotional intelligence should be part of criteria for employing construction executives as proposed by Butler and Chinosky (2006)[5]

Emotional intelligence can be learned according to many researchers like Goleman[5], Butler and Chinosky[3] and Mayer et al[10]. emotional intelligence should be included in the curricula of student in tertiary institutions offering construction related courses.

The findings of the study have provided insight about the importance of Builder's Emotional intelligence and its effect on site workers performance

The Builders should know their emotional intelligence status through assessment tools available and understand their strengths and vulnerabilities and make amends where necessary.

REFERENCES

- [1] Boyatzis R.E Goleman D. And Rhee K.S. (1999): Clustering Competences In Emotional Intelligence – Insights From The Emotional Competence Inventory (ECI) Case Western Reserve University Cleveland. Oh.
- [2] Bracket A.M. And Salovey P. (2006): Measuring Emotional Intelligence With The Master-Salovey-Caruso Emotional Intelligent Test. (MSCEIT) Psicothemema. 2006 Vol18, Sept. Pp34-41
- [3] Butler J.C And Chinosky P.S. (2006): Emotional Intelligence And Leadership Behavior In Construction Executives. Journal Of Management In Engineering. ASCE/June 2006.
- [4] Dann J. (2004): Emotional Intelligence. The Institute Of Management. Management House, Conttingham Road Corby. Northants NN17 1TT.
- [5] Goleman D. (2000): Leads That Gets Result. Harvard Business Review March-April 2000. P1-17
- [6] Hur Y.S. And Wilderson P.M.C, (2009): Emotional Intelligence, Transformational Leadership and Performances: Evidence And Challenges Reviewed. E-Mail: Sylvia Hur@Hotmail.Com
- [7] Kagan S. (2001); Emotional Intelligence. Kagan Online Magazine. Fall 2001 <http://72.30.186.56/Serach/Cache?Ei=UTF-8&=Free+Journals+On+Emotional+Intelligence...> Assessed 26/10/09
- [8] Marani F. (2008) The Relevance Of Emotional Intelligence In Developing The Next Level Of Management Leadership. Unpublished Doctorate Thesis.
- [9] Maxwell J.C (2003): 101 Attitude: - What Every Leaders Needs To Know. Thomas Nelson Publishers. Nashville.
- [10] Mayer D.J, Salovey P. And Coruso. R.D. (2004): Emotional Intelligence: Theory, Findings And Implication. Psychological Inquiry 2004. Vol5. No3 Pages 197-215
- [11] Quinn J.F. And Wilemon D. (2009); Emotional Intelligence As A Facilitator Of Project Leaders Effectiveness. JPQ Consulting. Tampa Fl. USA. Assessed 18/05/09.
- [12] Scherl W, Trueman M And Sture J. (2005): Emotional Intelligence: The Relationship Between And Innovative Constructs And Successful Training In Management Schools. Working Paper No 05/13 April 2005.
- [13] Stock B, (2009); Emotional Intelligence – An Inside- Out Job. Selfgrowth.Com (<http://Www.Selfgrowth.Com/Print/570803>).
- [14] Stock B, (2009): Emotional Intelligence And The Bottom Line. Self-Growth.Com (<http://Www.Selfgrowth.Com/Ptiny/570803>).
- [15] Tarricom J. And Luca J. (2001); Does Emotional Intelligence Affect Successful Teamwork G.Tarricone@Ecu.Edu.Au And J.Luca@Ecu.Edu.Au Assessed 15/04/09

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