Journal of Contemporary Research in the Built Environment ISSN: 2636-4468
Volume 2, Numbers 1&2, 2018

EMPIRICAL ASSESSMENT OF TRADITIONAL HUMAN RESOURCE DEVELOPMENT PRACTICE OF CONSTRUCTION FIRMS IN NORTH WESTERN, NIGERIA

Tukur Almustapha[1], Aminu Bn Musa[2] and Adesoji A. Adegboyega[3]

[1]Department of Building, Waziri Umaru Federal Polytechnic, Birnin Kebbi, Nigeria
[2]Department of Architecture, Waziri Umaru Federal Polytechnic, Birnin Kebbi, Nigeria
[3]Department of Quantity Surveying, Waziri Umaru Federal Polytechnic, Birnin Kebbi, Nigeria

ABSTRACT

Purpose: Construction firm is fundamental sector of economic; it transforms various resources into constructed physical infrastructure necessary for socio-economic development. It embraces process by which physical infrastructures are planned, designed, produced and repaired or maintained. In order to effectively carry out those responsibilities, construction firms are expected to formulate and put in place HRD strategies that vigorously develop their human resource effectively, being fundamental factor of production. Therefore, the study assesses traditional Human Resource Development (HRD) strategies in North-western, Nigeria construction firms.

Design/methodology/approach: The primary data for the study were collected through field work, involving the administration of a structured questionnaire to elicit information available and categories of HR in the construction firms in Northwestern Nigeria, traditional Human Resources Development strategies adopted by the firms. Data collected were analyzed using descriptive and inferential statistical tools.

Findings: The study revealed that, predominant HR in the sampled construction firms was bricklayers' and. concrete technologist, while professional staff among the HR categories was given more priority. With respect to traditional HRD strategies practice in the study area, training programme and mandatory training of new employees were the major HRD strategies in practice. However, production skill was rated higher among the HRD practice by construction firms.

Originality/value: The study concludes that HRD practice was found very fair, this is because construction firms are business oriented. The study recommends that government and professional body should pay more attention on construction firms operation, particularly on HRD.

Keywords: Construction firms; Human resource development practice; Nigeria; North Western.

[1]almustapha_t@yahoo.com

1. INTRODUCTION

Construction industry is a sector of the economic nerve centre that brings together different factors of production, using a technical process to produce construction products or services. The activities of the industry are significant to the achievement of national and socio-economic development goals. It provides infrastructure and contributes immensely to employment, gross fixed capital formation and gross domestic products (GDP) (Ibironke, 2003; Raza, 2008). Indeed, the industry is regarded as a barometer through which the good or ill-health of the nation's economy is measured and monitored (Agunbiade, Adeniyi, Olokesusi, Olufemi and Agboola, 1995). The traditional procurement practice includes sequential approach at different stages to designs and develop construction project (Garza, 1994). These organizational and sequential processes to project development characterized construction industry as being complicated and challenging in nature (Vinit, Johan, Hakan and Pontus, 2010).

With respect to complex nature of the construction industry it represents one of the most dynamic, risky, complex, and diverse industrial environments (Alvin, 2011). Being project-based in nature, the products are very vast and production responsibilities are divided among many participants such as Architects, Builders, Quantity Surveyors and Engineers. Each participant performs different functions belonging to different organizations with different objectives, policies and practices as well (Aina, Adesanya and Ojo, 2009; Pettus, 2003). Aina et al., (2009) added that participants are often freshly assembled for current project. It is volatile with peaks and falls in level of activities. Variation in number, size and types of projects undertaken by the industry over time (Turner and Keegan, 2001). These are responsible for significant variation in changing requirement of staff in terms of capability, knowledge, experience and skill profiles (Turner, 2002). In addition to these complex natures, the industry is still faced with other challenges.

There are numerous challenges facing the construction industry today such as: economic swings, new markets emerging in the global economy, increasing competition, impact of technology, growing demand of complex infrastructure by clients, technological advancement and innovation in all forms of businesses, increased in quantity demands from clients (Abu Hassan, Arman, Mohamadand Nurkhuraishah, 2011). Hence, solution to these kinds of problems requires specially trained personnel to be able to mitigate its various complicated dimensions. This makes adequate attention on HRD issues in the construction industry imperative. Therefore, the industry requires the possession of a broad range of management talents, skills and capacity for a continuous approach to problem solving within competitive environment (Aniekwu and Ozochi, 2010). According to Oladeji (2002) a dynamic organization at the competitive edge is one that is imaginative and innovative in its HRD programme providing training and education that would make its human resource productive and innovative.

HRD is part of management practices which is defined as the process of increasing the knowledge, skills and competences of all the people in a working environment like construction industry (Sriyan, 1997). In addition, Adams (1997) took a broader view of HRD as improving competence, culture and commitment which include opportunities for employees' training, re-training, career development and mentoring. The purpose of HRD is to enhance learning in work-related systems, to ensure effective and efficient use of resources (Yuan and John, 2008), and also improve organization performances (Kasimu, Rosilan and Fadhlin, 2013). According to Mathis and Jackson (2000) human

resources development is progressively considered as a survival tool in competitive and continuously changing environment (Kasimu *et al*., 2013).

The foregoing issues indicate the fact of HRD as a tool for the achievement of construction firms' core objectives. But many business organizations focus more on profit making neglecting to improve their HR. This may lead to financial milt down of many construction firms as a research problem. It is therefore, necessary for the construction firms to continuously be updating their Human Resource (HR). The construction industry presents a challenge to each member of the construction team, all members of the team bear heavy responsibilities and it is the duty of the various organizations to assist their individual members to discharge their respective responsibilities in an effective manner. Being fundamental sector of economy, activities of this sector is significant to the achievement of national and socioeconomic development goals. Indeed, the sector is regarded as a barometer through which the good or ill-health of the nation's economy is measured and monitored. To enhanced security condition prevailing in the study area, call for effective HRD in construction firm, due to its multiplier effects. This informed the need for this study. Hence, the study assesses the extent to which HRD are practiced by construction firms in North Western Nigeria.

2. REVIEW OF RELATED LITERATURE

In recent times the incident of organizational development and improved performances became paramount in many organizations (Ayoola, 2014). The workforce is the most valuable asset for an efficient outcome of any organization and this is especially true in the case of labour-intensive industries (Malkani & Kambekar, 2013) like construction industry. Unlike many organizations whose performances are enhanced by new emerging technologies, construction industry is still a labour-intensive, as a result human resource is the most important and very often the most expensive resources deployed within construction industry (Loosemore *et al*., 2003). Drucker (1993) submitted that the fundamental economic resource is no more capital, natural assets, nor work, but human resources. Human resource is an important factor in the development of the construction (Mohamed, Andrew, Dainty, & Stephen, 2011).

Professional HR in the construction industry include: architects; builders, engineers, (for example structural, geotechnical, building services, mechanical and electrical), estate surveyors and valour's, quantity surveyors, land surveyors and town Planners. The professionals in the industry are expected to have been scientifically, technologically and management oriented (Katz, Aldrich, Welbourne and William, 2000). They are responsible in applying the basic principles of management to oversee the execution of projects they are properly trained on the use of managerial skills. Generally, professionals are university graduates or qualified personals. Technical personnel specialize in analytical and problem solving. They should be able to estimate the type and quantity of material required to complete a job and how long a job will take to be completed. Technical staffs include line managers and site supervisor/resident builders. These categories of staff often have advanced technical certificate, national diploma or higher national diploma certificate from polytechnics. Also, technical personnel comprised foremen of different trade sections, specialist and general foremen, structural, electrical laboratory technicians, construction engineers and plant and equipment superintendents. Artisans and craftsmen are construction operatives who contributed skilfully with their hands in the practical realizations of a project. Artisans and craftsmen are equally as important as professionals,

in the construction industry. In spite of advancement in technology, plant and equipment and in particular robotics, the construction industry is one of the few that still relied heavily on individual skills of tradesmen. There is and always will be the need for tradesmen such as carpenters/joiners, block layers/bricklayers, still fixer, plumbers, electricians, floor and wall tillers.

The concept of HR refers to the managerial, scientific, engineering, technical, crafts and other skills which are employed in creating, designing, developing organizations management and operating production as well as services of enterprises (Oladeji, 2002). Human Resource (HR) is also defined as the knowledge, skill, experiences, energies and attitude employed by organizations, which are potentially useful for the production of goods and services. HR is recognized not just in terms of hours work but also skills, knowledge, attitudes, experience and similar attributes that affects particular human capabilities to do productive works and would be most suitable for the realizations of their purposes, aspirations or objectives (Stephen, 2011).

Human resources development can be defined as a set of systematic or planned activities designed by an organization to provide its members with the opportunities to learn necessary skills with a view to meeting current and future job demands. Also HRD seeks to develop people's knowledge, expertise, productivity and satisfaction, whether for personal or groups/team gains or for the benefit of an organization (Mclean and Mclean, 2001). Swanson (2007) has defined HRD as a process of developing and unleashing human expertise through training for the purpose of improving performance.

HRD as discussed can be a stand-alone function, or it can be one of the primary functions within the HR Management Department. An ASTD sponsored study (Mclagan, 1989) identified the HRD role and competencies needed for an effective HRD function. This ASTD study documented a shift from the more traditional training and development topics to a function that includes career development and organization development issue as well. Training and Development (T&D) focus on changing or improving the knowledge, skills and attitudes of individuals. Training typically involved providing employees the knowledge and skills needed to do a particular task or job, though attitude changes (Swanson, 2007).

Education is the key to creating, adapting and spreading knowledge. It increases people's capabilities to learns and to interprets information. But higher education increases the technical training needed to build a labour force that can keep up with a constant stream of technological advances, which compressed production cycles and speed the depreciation of human capital, such as the construction industry (Aidah, 2013). Education produced people, who can monitor technological trends, assess their relevance to an organization's prospects and help formulate an appropriate organizational strategy. It improved the construction and organizational performance in terms of project delivery, reduce construction rework, and improve problems solving solutions and decision making (Oladeji, 2002).

Fagbola (2012) and Mahapatro (2010) defined training as "an organized activity to for increased the knowledge and skills of the people for a definite purpose. It involves systematic procedures for transferring technical know-how to the employees so as to increase their knowledge and skills for doing specific job with proficiency (Mahapatro, 2010). Abiodun (1999) submitted that "training is a systematic development of the knowledge, skills and attitudes requires by employees to performed adequately on a given task or job, it can take place in a number of ways: on the job or off the job; in the organization or outside the organization (Mullins, 1999).

In order to effectively implement training and development programmes, several methodologies have been put forward in previous studies. Among the other training

methods is on the Job Training's: This relates to formal training on-the job. Workers become more experienced on the job over time due to modification of job behaviours at the point of the trainings or acquisition of skills. Atiomo (2000) identified on–the–job Training as the training in the normal work situation. In other words, the trainee learned as he does his job, with time perfected completely. Off–the–job training, on the other hand, is the training in the knowledge behaviours pattern requires for a task, job or occupation away from the normal work situation and day–to–day pressures (Smith, 2002). Tabassi and Barker (2009) made a comparison between on-the-job and off-the-job training. According to the authors, in terms of emphasis, off-the-job training is about learning basic facts and skills while on-the-job is about getting the job done. The ultimate goal of off the- job is "knowledge" while that of on-the-job is developing "best practices". Induction/Orientation: is carried out for new employees on the job to makes them familiar with the total corporate requirements like norms, ethics, values, rules and regulations. Another training method practice in the construction industry is apprenticeship a method of training where an unskilled person understudies of a skilled person. Apprenticeship programmes are more comprehensive trainings that combined on–the–job training with related classroom instruction and are available for electricians, iron workers, carpenters and other artisans (Tabassi and Barker, 2009).

Demonstration as a training method in the construction industry involved, teaching by example whereby the skilled worker performs the job and the unskilled worker closely observed so as to understand the job process. A conference is a training method that involves presentations by more than one person to a multifarious audience. It is more cost effective as a group of employees are trained on particular topic all at the same time large audiences. This method, however, is disadvantageous because it is not easy to ensure that all individual trainees understand the topic at hand as a whole (McCourt and Derek, 2003).

Coaching and Mentoring: This involved having more experienced employees (McCourt and Derek, 2003; Torringoton, Hall and Taylor, 2005). It is argued that mentoring offered a wide range of advantages for development of the responsibility and relationship building (Torringoton and Tan, 1998). The practice is often applied to newly recruited graduates in the organization by being attached to a mentor who might be their immediate manager or another senior manager. This however, does not imply that older employees are excluded.

Vestibule is also another training method. This is done through industrial attachment for the purpose of skills and technologies transfer. The effect is the acquisition of practical and specialized skills. Formal training method, this method involved practical and theoretical teaching process, which could be done within or outside the organization. When training is carried out inside an organization, it is called an in-house training, while off-house training is carried out in professionalized training areas or places outsides the organization such as universities, polytechnics and professional institutes or institutions; other training method include vocational training schools and vestibule schools which provide practical on –the – job knowledge and skills in diversed areas of human endeavour and is more formal than apprenticeship programme. Industrial training is a form of training that provides an on–the–job situation for trainees and is usually part of the curriculum for higher educational programmes in universities, polytechnics and lasted between 3 and 4 months. It is coordinated in Nigeria by the Industrial Training Fund (ITF, 2005). Conferences and Workshops are for professional peers and superiors to rub minds, interact and share ideas on development perspective within a profession or industry higher qualification programmes include diploma, graduate and postgraduate programmes offered in institutions of higher learning, companies and organizations alike uses it as a platform to sponsor their staff to acquire knowledge at the higher level to equip them with requisite skill to face more daunting tasks in the organizations.

3. RESEARCH METHODOLOGY

The primary data for this study were collated through field work, involving the administration of a structured questionnaire to elicit information available and categories of HR in the construction firms in Northwestern Nigeria, traditional Human Resources Development strategies adopted by the firms. Using Purposive sampling technique, the study selected three states namely: Sokoto, Kebbi and Zamfara states from North Western Nigeria. The target population for the study consisted of all registered construction firms in the selected states. The number of registered construction firms was obtained from the corporate affairs commission in each state. Twenty percent (20%) of the construction firms with offices in the three states were selected using random sampling, yielding 66 firms. In each firm, six-member staff was selected making a total of 396 respondents. Hence, a total of 396 questionnaires were administered out of which 238 were retrieved. Data collated were analyzed using percentage, mean scores, rank indexes and F- value statistics.

4. RESULTS AND DISCUSSION

Table 1 **i**dentifies the categories of Human Resources in the sampled firms namely: administration/management staff, professional staff, technicians, tradesmen and artisans. The result shows that technical staff have (33%), followed by professional staff with (28%), while tradesmen and artisans (26%), However, Administrative/Management staff with (13%) respectively. The results highlighted the importance attached to technical staff in the study area. This is more pertinent with construction firms because of their technical functions. The skills requirements for technical personnel are usually analytical and problem solving in nature (Learning and Skills Council, 2003). There will be the need for technical staff.

According to Yakubu (2005) technical staff, for instance, should have the abilities to identifies and estimate the correct types and quantities of materials required to complete a job and accurately estimate how long a job will take to be completed and at what cost (Dubem, Stephen, Oluwaseyi and Onuwa, 2012). In competitive and continuous changing environment like construction firm, technical staff will ensure effective and efficient use of resources and improved organization performances. Shortage of technical staff may affect firm performance indexes such as: timely completion and quality work man ship.

Table 1: Categorization of human resources in the sampled construction firms

Categorization of human resources	Percentage (%)	Rank
Technical staff	33	1
Professional staff	28	2
Tradesmen and Artisans staff	26	3
Management/ administrative staff	13	4
Total	**100**	

The traditional HRD practice adopted by construction firms in the study area were presented in Table 2. The result identified training programme with (44%) as the most frequently practice in construction firms in the study area; this followed by development programme with (31%) and education system score (25%). It appeared that training programme (44%) was ranked high among the HRD programme. This is more pertinent

with construction firms because training programme concerned with improving current job performances and imparting specific skills among operatives such as tradesmen and artisans (Fagbola, 2012; Mahapatro, 2010) being the operative as largest as they available. Odusami *et al.,* (2007) and Chan (2005) observed that training has become the only source of sustainable long term competitive advantage in the construction industry. Obiegbu (2003) added that employees acquire sufficient, relevant technical knowledge and skills for dealing with problems of the Construction Industry; acquiring practical field, providing technical abilities to visualize, solve practical construction problems, enhancing the safety of workmen and impact significantly on project delivery Tabassi *et al*., (2011) argue that training played a critical role in increasing workers' adaptability and flexibility with employers.

Table 2: Identified traditional HRD practice adopted by construction firms

HRD Programme	**Percentage (%)**
Training	44
Development	31
Education	25
HRD Policies	
Mandatory training of employees upon joining the firms	37
Employee request	26
No specific policy	18
Supervisors recommendation	10
Performance appraisal	9

Table 2. Revealed information on HRD policies, the results show how respondents were selected for training and development in their respective construction firms. Mandatory training of employees upon joining the firms score (37%) and (26%) of employees were selected for training and development based on request, while 10% and 9% were sent for training and development based on Supervisors recommendation and Performance appraisal respectively. It appeared that mandatory training upon joining the firms was highly selected. Training policy of an organization is a laid down statement of trust of what the organization is prepared to do or offers in terms of developing its employees (Odusami et al., 2007). This study is consistent with Coles (1986) who indicated that other companies may preferred to recruit personnel that are already trained and professionally qualified as a policy to reduce cost of staff development.

Further examination on HRD strategies adopted, revealed various methods of training, educational and developmental systems practice by the sampled construction firms (Table 3). Using mean score to rank the variables and ANOVA F to test the significance of each variable with respect of HRD strategies adopted. Table 3 showed several training methods adopted by sampled firms as part of their HRD practice, namely: induction/orientation (mean score=2.18), apprenticeship (mean score=2.02), coaching and mentoring (mean score=2.24), presentation (mean score=2. 20), on-site training (mean score=2.58) and off-site training methods (mean score=1.78). However, only three of these methods were found significant. These are on-the-site at ($F=6.259$, $P<0.05$), followed by coaching and mentoring, significant at ($F=5.890$, $P<0.05$) and induction/orientation, significant at ($F=3.598$, $P<0.05$). Those training methods were found to be the most significant training strategies adopted by sampled construction firms. It appeared that among the training methods, on-the-site training method (2.58 mean rating) was ranked highest and must significant at ($F= 6.259$, $P<0.05$). This is largely expected as most duties in the construction

industries were carried out on-the-site, giving opportunities to largest groups of employees to be trained while on the job. It is given preference because training take place in the environment in which the trainee will work at the end of his training (ITF, 2005). Also trainee work with equipment and materials which they will use at the completion of training and the job procedures are the same as obtained after training. On-the-job training is about getting the job done and it is dynamic, situated and practice-oriented (Tabassi and Bakar, 2009).

Table 3: HRD strategies adopted by construction firms

HRD Strategies	Mean Score	Ranks	ANOVA F
Training methods			
On-the-site	2.58	1	6.259**
Coaching/mentoring	2.24	2	5.890**
Induction/Orientation	2.18	3	3.598**
Presentation	2.20	4	3.309**
Apprenticeship	2.02	5	3.132**
Demonstration	2.00	6	1. 485
Off-the-site	1.76	7	2. 260
Conference	1.91	8	1.990
Vestibule	1.06	9	1.014
Educational system			
Informal education	1.50	1	2.781**
Formal education	1.15	2	2.061
Development methods			
Promotion	1.42	1	4.157**
Under-study	1.33	2	2.863**
Job-rotation and transfer	1.08	3	2.188
Self-development	1.23	4	2.145

**: significant at 5% level

There were two components of education system (Table 3) practice by sampled construction firms. These are informal and formal education systems. The mean rating of informal education system (mean score=2.781) ranked higher and significant at ($F=2.781$, $P<0.05$) than formal system (mean score 2.061). This indicates that HRD strategies practice by sampled firms in relation to education system were mainly informal (mean score 2.781) ranked highest and significant at ($F=2.781$). Development of HRD strategies (Table 3) adopted by sampled construction firms include, promotion (mean score=1.42), under-study (mean score=1.33), job rotation and transfer (mean score=1.23) and self-development (mean score=1.08). However, promotions with higher (mean score 1.42) were found to be the most significant component ($F=4.157$, $P<0.05$) followed by under-study (mean score 1.3) and significant ($F=2.863$).

The findings on HRD programme and methods adopted indicated that the HRD strategies practiced in the study area had little attention on education system. This is more pertinent because of the unstable nature of the construction industry typified by casualization of workers, workers being employed from the inception of projects, and laid off at its end and many laboured-only subcontractor arrangements (Loosemore, Dainty and Lingard, 2003). Aina *et al.,* (2009) added that participants are often freshly assembled for

current project. This could have number of implication to performance of construction firms. However, Jayawardane and Gunawardena (1998) argued that absence of education among construction firms in developing countries results in poor quality work, high wastages and long terms productivity declined in the industry.

The extent to which employees in the sampled construction firms have been developed in the areas of HRD practices are presented in (Table 4). The result shows that most of the employees were highly developed in the area of technical knowledge (means=4.20), production skills (means=4.05) and legal/regulatory policy (means=4.01). The extent to development in communication skills is above average (means=3.51) while development in the area of computer/IT was below average (means ranked=3.44). It appeared that, technical knowledge (means ranked=4.20) and Production skills (means ranked=4.05) respectively were highly ranked by the respondents, while Computer/IT was least ranked with (mean ranked=3.44).

Table 4: HRD practice areas and employees' development

	Excellent	**Good**	**Fair**	**Poor**	**Very poor**	**Mean Score**	**Rank**
Technical knowledge	51.3	23.1	15.4	7.7	2.6	4.20	1
Production skills	47.1	23.5	19.6	7.8	2.0	4.05	2
Legal/regulatory policy	38.3	38.3	13.3	6.7	3.3	4.01	3
Management of People	34.7	44.9	8.2	10.2	2.0	4.00	4
Health and Safety	29.8	42.6	21.3	4.3	2.1	3.94	5
Customer care and marketing	38.5	23.1	21.2	11.5	5.8	3.77	6
Leadership	28.3	24.5	35.8	9.4	1.9	3.68	7
Business and Finance	27.7	36.2	12.8	19.1	4.3	3.64	8
Communication skills	23.1	25.6	30.8	10.3	10.3	3.51	9
Computer/IT	22.0	32.0	20.0	20.0	6.0	3.44	10

5. CONCLUSION AND RECOMMENDATIONS

The study concluded that HRD practices in the construction firms was found very fair, this is because they pay more attention on few staff (brick layer and concrete technologist) and mostly concerned on practical oriented training (production and technical skills) methods. The firms have low concern on management skills, performances appraisal, job rotation and formal education of their HR. Hence, the HRD practices highly favoured on-the-site training method. The prevailing features may lead some negative factors such as: construction delay, time and cost over- run, poor workmanship as well as profit margins. In addition, the situation at hand will also discourage young generation (youth) taking employment with study organizations (construction firms) due to poor H R Development practice which is against their career development. This will contribute to unemployment rate, by and large lead to in security situation in the study area.

Based on the findings of the study and conclusions drawn, the following recommendations were made: It is recommended that professional institution and relevant government agencies, should embark on enlightenment campaigns to educate contractors and review policies of the construction firms respectively, through annual accreditation and renewal of license. However, clients should give preference to quality of employee, by

critical assessment of firms' profile before contract award. These could encourage construction firms to invest more on human resource development of their employees.

REFERENCES

Abiodun, E. J. A. (1999). Human Reourses Management, an overview. Concept Publication. 110-121.

Abu Hassan, A., Arman, A. R., Mohamad, N. Y., & Nurkhuraishah, A. k. (2011). Factors determining growth of companies: A study on construction companies in Malaysia. *African journal of business management, 5*(22), 8753-8762. doi: http://www.academic journals. org/ AJBM DIO:10.5897/AJBM10.1142

Adamolekun, L. (1983). public Administration: Nigeria and Comparative perspective, London. Longmans.

Adams, O. A. (1997). contractor development in nigeria: perceptions of contractor and professionals *construction management and economic, 15*(1), 95-108.

Agunbiade, B., Adeniyi, K., Olokesusi, F., Olufemi, S., & Agboola, T. (1995). Final report on the impact of liberation policies in the Building construction industry in Nigeria NISER publication, Ibadan, Nigeria.

Aidah, N. (2013). E*ffects of Training on Employee Performances Evidence from Uganda.* (M. Sc.) unpublish thesis, VaasanAmmaTikorkeakoulu University of Applied Science.

Aina, Adesanya, & Ojo. (2009). Delay problems in construction projects in Nigeria: a theoretical focus on causes and avoidance strategies. *Journal of environmental design and management, 11*(2), 40-46.

Alvin, V. (2011). Factors in human resource management the influence construction company's performance in Indoneia.

Aniekwu, N., & Ozochi, A. (2010). Restructuring education and human - resource development in the Nigerian construction industry. *journal of science and technology education research, 1*(5), 92-98. doi: http://www. academicjournals. org/JSTER

Atiomo, A. C., (2000). *Human Resource Management*.1ST Edication, Lagos: Malt House Press Limited.

Ayoola, M. O. (2014). *Capacity building and job performance of employees in university of technology in southwestern Nigeria.* (M. Phil), Obafemi Awolowo University, Ile-Ife, Osun state, Nigeria.

Chan,E.H, Suen, H.C. & Chan, S. L. (2005). An integrated project extranet design phototype: e-AEC for architects, engineers and contractors in hong kong mainland china *construction research, 6*(2), 253-271.

Drucker, P. F. (1993). *The post capitalist society, Butterwoth- heinemann London, Egbu, C O, 2005. Knowledge management as a driver for innovation, knowled management in construction*. Oxford, U K Blackwell publishing.

Dunn, J. D., & Stephens, E. C. (1972). management of personnel: New York: McGraw Hill. 121.

Dubem, I., Ikediashi, I., Stephen, O., Ogunlana, I., Oluwaseyi, A., Awodele, I., and Onuwa O. (2012). An Evaluation of Personnel Training Policies of Construction Companies in Nigeria, Journal of Human Resource Economic, 40(3), 229-238.

Edwin, B., & Flippo,I. (1998). Principles of personnel management, McGraw- Hill, Tokyo, . 209.

Evans, P., Pucik, V., & Barsoux, J. L. (2002). the global challenge: Frame work for international Human resource management. Boston: Mcgraw- Hill.

Fagbola, T. O. (2012). *Manpower development and efficiency of employees in the food and beverage indutry in south western nigeria.* (M. Phil), Obafemi Awolowo University Ile-Ife Osun State nigeria.

Gann, D. M., & Salter, A. (1998). Learning and innovation management in project-based, service- enhanced firms, . *international journal of of innovation management,, 2*(4), 431-454.

Ibironke, T. O. (2003). *construction finance technical books* (first edition TIMLAB ed.).

ITF. (2002). Journal for Apprenticeship and Vocational Training, Jos Nmadu, T. M.(1998) Human Resource Management: An Introduction, Jos:Jofegan Associates, 261.

Kasimu, M. A., Rosilan, A., & Fadhlin, A. (2013). The significance of knowledge management in civil Engineering construction firms in Nigeria. *Journal of Applied Sciences Research, 9*(6), 3484-3491.

Loosemore, D., Dainty, A., & Lingard, H. (2003). Human resource management in construction projects: Strategic and operational approches.

Mahapatro, B. M. (2010). Human resource management, New Age publisher, New Delhi.

Malkani, Z. A. K., & Kambekar, A. R. (2013). Management of human Resource in construction industry. *international journal of Engineering research and technology, 6*(3), 353-362. doi: http://www.irphouse.com

Malone, T. W. (2004). The future of work. boston Harvard business school press.

Mathis, S. R., & Jackson, J. H. (2000). *Human Resource Management.* South Western College publishers.

McCourt, W., & Derek, E. (2003). global human resource management: managing people in developing transitional countries. *Cheltenham. UK: Edward Elgar*.

Mclagan, P. A. (1989). Models for HRD practice. . *Training and Development journal, 4*(9), 49-59.

Mclean, G. N., & Mclean, L. (2001). If we can't define HRD in one country, how can we define it international contex? *Human resources Development International, 4*(3), 313-326.

Mohamed, S. A.-w., Andrew, R. J., Dainty, A., & Stephen, G. I. (2011). A review of the relationship between skills and productivity in construction.

Mullins, L. J. (1999). Management and Organization Behaviour, Prentice Hall, London: Pitman

Obiegbu, M. (2003). Education and training of Builders Towards proactive Roles in the 21st century Building Industry in Nigeria. seminar for lecturers of Building programme in Tertiary Institutions. Nigerian Institute of Building (NIOB), 13th December.

Ogunlana, S., Thapa, S., & Dey, P. K. (2002). Assessing engineering training needs, methods and effectiveness In: SO Ogunlana(Eds): Training for construction Industry Development... *Rotterdamm:CIB Publication, 94-102*.

Oladeji, S. O. (2002). *Approaches to Human Resources Devlopment*. Paper presented at the training programme on management of human resources, , Ibadan, Nigeria.

Pettus. (2003). Growth from chaos:Developing your firm' resources to achieve profitability without cost cutting.

Pettus, M. L. (2003). Growth from Chaos: Developing Your Firm' Resources to Achieve profitability without cost cutting.

Raza, A. K. (2008). *Role of construction sector in economic growth:Empirical Evidence from Pakistan economy*. Paper presented at the First international conference on construction in developing countries "Advancing and intergrating construction education, research & practice" Auqust 4-5 2008,.

Sriyan, d. s. (1997). *priority for employers*. Paper presented at the International Labour Office workshop on Employees' Organization, Asia-pacific.

Swanson, R. A. (2007). Defining Intergalactic Human Resource Development (HRD).*Human Resources Development International, 10*(4), 455-457.

Torringoton, D., Hall, L., & Taylor, S. (2005). *human resources development* (6th Ed. ed.). London: prentice Hall.

Torringoton, D., & Tan, C. H. (1998). Human resource management for Southeast Asia and Hong Kong prentice hall.

Turner. (2002). *Strategic Human Resource Forcasting. London: CIPD*: .Turner, & Keegan, A. (2001). Mechanisms of Governance in project- based Organizations: The Role of the broker and Steward. *European Management Journal, 19*(3), 254-267.

Vinit, P., Johan, J., Hakan, Y., & Pontus, B. (2010). *Barriers to information and communication technology adoption in small firms*. Paper presented at the swedish entrepreneurship forum, pontus Braunerhjelm.

Yuan, C., & John, K. (2008). The mechnisms of information communication on construction sites newcastle university. *Forum Ejournal*.