An Analysis of Knowledge Transfer Mechanism Between Expatriates and Nigerian Workers in the Building Construction Sector in Lagos State, Nigeria

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ABSTRACT

The study examines the strategies for knowledge transfer in the multinational building construction firms; from the expatriates to local professionals and artisans operating in Lagos State, Nigeria. This was with a view to providing information that could enhance knowledge transfer for the purpose of enhancing quality service delivery in the study area. Relevant data for the study were sourced through the administration of two sets of questionnaires. A total of 315 copies of the first questionnaire were administered on artisans, while 151 copies of the second set were administered on both the local professionals (127) and expatriates (24). In all, a total of 454 copies of the two sets of questionnaires were properly completed and returned, thus, representing 96.8% response rate. The result of regression analysis that was conducted revealed that training programs (r = 0.291), conference attendance (r = 0.312), job rotation (r = 0.539) as well as mentorship and coaching sessions (r = 0.439) were the identified correlates of knowledge transfer in the study area. The study thus recommends the need for the institution of regulatory framework for the assessment of implicit and explicit knowledge transfer from the multinational building construction firms to local artisans and professionals in order to enhance technology spillover in the study area.

Keywords: Knowledge, Transfer, Expatriates, Building, Construction

INTRODUCTION

The building construction sector serves as a harbinger of creative and developmental activities that can ensure social and economic emancipation of a society and guarantees financial freedom (Chukwuji, 2012). Ugochukwu and Tobechukwu (2014) view the sector as a driving force for sustainable economic buoyancy and a major industry that ensures stable employment. Adeagbo (2014) believes the building construction sector is rated as very important to a nation's social and economic advancement as it is always capable of meeting the ever changing and preferences of house owners in view of the in-built dynamism in the industry.

Therefore, human capital development is a critical element in the building construction sector, as it shapes the direction to follow and even dictates the level of productivity and indirectly influences the ways plans, programmes and strategies are implemented. Thus, knowledge transfer from expatriates, especially from developed nations is a critical knowledge transfer mechanism in the building construction sector in developing countries, as it involves movement of tacit knowledge and skills from an individual who has a reservoir of knowledge to another one who is desirous to acquire more technical knowledge and skills through communication or practical trainings (Wee *et al.,* 2014). To this end, tacit knowledge transfer in the building construction sector is indeed desirable as it resides within individuals; personal in nature, and involves cognitive and experimental learning process, unlike the explicit knowledge which has to do with objectivity, rationality, and usually documented and can be measurable in its perspective (Gupta, Iyer and Aronson, 2000). McAdam and McCreedy (1999) are of the opinion that the wealth of tacit knowledge resides with individuals

and such, knowledge or skills that are embedded within an expatriate are demonstrated in the way he or she operates or undertakes activities, and as a result, knowledge or skill has to be nurtured and shared so that such personalized knowledge or skill is made to be transmitted to other members of an organization who are made to undertake similar activities. Martins (2003) argues that knowledge management is an act that has to do with the utilization of organizational human capital, in order to leverage its intellectual and technical capabilities, which is usually deployed for the benefits of the entire organization, and shared among all the stakeholders, within an organization for continued relevance. Mojahed and Aghazadeh (2008) are of the opinion that the skills and experiences of construction workers are the most influential factors for the success of any construction project. Huang *et al.* (2009) noted that skilled labour availability is the perquisite factor for the successful implementation of any building project, and by extension, an assurance for project viability and profitability. Also, Inuwa (2014) argues that the adequacy of workforce and their competences are the most important input resources for ensuring building projects planning and scheduling as well as their implementation.

Other factors identified to be important for knowledge transfer in the construction sector include good sense of humour, pride in accepting and undertaking assigned tasks, cooperative attitude and taking pride in executing joint activities and good time keeping (Fayek *et al.,* 2006; Hewage and Ruwanpura 2006; Enshassi *et al.*, 2009). Also, these scholars equally identified integrity, fidelity, morality, level of education, experience acquired through on-the-job training, short-term training programmes or daily courses and seminars in educational institutions with supports of local construction industry and professional societies which help individuals to be made better in the performance of their assigned duties. In the same vein, Ntuli and Allopi (2014) identified mentoring and other internal skills acquisition arrangements in form of supervision, on-hand training of workers, thorough work in practice, workplace culture, work norms and value system within organizations as factors influencing knowledge transfer.

In view of the importance that is attached to the concept of knowledge transfer in human capital development, especially in the industrial sector, this area of study has attracted the attention of scholars and practitioners, both in the developed and developing countries. For instance, Dutse (2012) examined knowledge transfer and technological spillover through foreign direct investment (FDI) in the northern Nigerian manufacturing industry and reported that though the subsidiaries of multinational corporations operating in the Nigerian manufacturing sector attract and generate appropriate knowledge transfer that could easily be absorbed by the host communities. However, the absorptive capacity of the indigenous firms was too weak to take full advantage of opportunities provided by that arrangement. Behera (2015) examined knowledge transfer mechanism through the instrumentality of foreign direct investment in the Indian manufacturing industry and reported that despite the fact that foreign direct investment normally provides unfiltered technology diffusion from foreign firms to the domestic organizations and thereby necessitates the absorption of relevant technology to the local firms; the study reported that this was not the case in the Indian domestic manufacturing sector, as the level of technology absorption in the domestic industry was not high enough to adequately domesticate the required technology to the envisaged level owing to low level of absorptive capability of the local firms. Also, Yu-Shan (2012) examined knowledge transfer mechanism between expatriates and host country nationals in China, focusing on the personal qualities of both expatriates and home country nationals as underlying factor linking individual personal qualities and organizational practices as mediating factors for knowledge transfer and discovered that knowledge transfer was done bidirectionally, as it was discovered that both expatriates and home country nationals transferred knowledge to one another, and that both expatriates and home country nationals benefited symbiotically in their interactions with each other. As good as these research outcomes might look to be, none was specifically undertaken to examine knowledge transfer mechanism between expatriates and local artisans and professionals in the Nigerian building construction industry. Therefore, there seems to be a dearth of scientific investigation in this area of building construction sector in Nigeria.

Therefore, there is a need for a study such as this, that is set, to examine the psychographic characteristics of artisans and professionals in the Nigerian building construction sector and to assess the strategies adopted by the expatriates to transfer knowledge and skills to the local artisans and professionals in the sector.

LITERATURE REVIEW

The concept of knowledge transfer is described as a systematic process of exchanging information and skills among members of an organization in order to learn from one another (Wang *et al.*, 2004 and Kalling, 2003). It refers to the organized formal process of passing organizational best practices or specific set of knowledge or skills by an expatriate or a colleague, especially when discussing operational problem of an organization or when one gets an idea in a meeting about something that a colleague has done (Makela, 2007). Renzl (2006) describes knowledge transfer as the transmission of knowledge or skills directly from a source to a recipient within an organizational setting. Sönmez (2012) defines knowledge transfer as the act of sharing technological know-how, through such means as consultancy, joint ventures, gifts, licenses, franchises and patents. Veeramani and Goldar (2005) argue that foreign direct investment has been widely recognized as an important avenue for industrial development in developing countries in view of its ability to bring intermediate goods, bundle of capitals and their capabilities in order to transfer knowledge and skills in form of externalities and technology spillovers. For Osabutey and Jin (2016), knowledge transfer is a deliberate effort of artisans and professionals in the construction industry to imbibe, imitate, store and transmit and even to improve or make better, the tacit knowledge and skills brought to local sector, especially from abroad, which pertain to operational reality of a particular industry to enhance the operational innovations that are desirable within the local industry. Osabutey *et al.* (2013) therefore define knowledge transfer in the construction industry as the process of conveying and acquiring emerging technical knowledge and skills required in the construction industry, especially from the building construction experts in the foreign land to the local/host communities in another country. According to them, it involves a two-way process by which both the donor and the recipient work together in deciding on what needs to be transferred and how the technical knowledge and skills are to be received from the donor nations and to be put to effective use by the recipients, in developing countries. Equally, Ramanathan (2009) believes that knowledge transfer to the developing countries' construction industry was anchored on economic perspective as it is meant to enhance constructional innovation and economic growth and development of the recipient nations.

In terms of the readiness of recipient nations to accept knowledge transfer, Gao *et al.* (2022) identified a number of psychographic attributes of construction workers that are necessary conditions for maximising the opportunities offered by such knowledge being transferred, which include the need to minimise workplace constructional accidents and hazards. They equally identified context-risk related attributes of artisans and professionals that are involved in knowledge transfer including environmental factors that surround the accomplishment of constructional activities. Others include organized construction site, placement of tools and equipment in orderly manner. Also, Abdelhamid and Everett (2000) identified orderly arrangement of tools, equipment and other measures aimed at ensuring accident-free operating environment for artisans and professionals in the construction industry as well as real-time subordinates' supervision in order to avert possible mishaps in the construction sites.

METHODOLOGY

The study adopts survey research method. Relevant data for the study were sourced through the administration of two sets of structured questionnaires using a multistage sampling technique. The first stage has to do with purposive sampling of one (1) multinational building construction firm from each of the seven local government areas where the twenty (20) identified multinational building construction firms are located in the state, based on the highest number of employees, in each of local government areas. The second stage has to do with segregation of a total of 3990 employees in the seven selected building construction firms into artisans, local professionals and expatriates. Thereafter, the Krejcie and Morgan (1970) sample size formula was applied to select a scientifically representative sample size that was approximately put at four hundred and seventy (470) respondents. The third stage involved simple random sampling of three hundred and fifteen (315) artisans, one hundred twenty-seven (127) local professionals and twenty-four (24) expatriates in the payrolls of the seven selected multinational building construction firms in the study area. In all, 315 artisans were administered questionnaire on, out of these, 303 of them properly completed the instrument including; bricklayers 54(17.8%), electricians 62 (20.5%), plumbers 34(11.2%), carpenters 29(9.6%), painters 55 (18.2%), iron benders 35 (11.6%) and ceramic tilers 34 (11.2%). Also, for the professionals/expatriates, one

hundred and fifty-five (155) copies of questionnaire were administered on them, out of which one hundred and fifty-one (151) were properly completed and returned, representing 97.4% return rate; including 44 builders (29.1%), 58 electrical engineers (38.4%), 32 architects (21.2%), 13 civil engineers (8.6%), 4 quantity surveyors (2.6%). Among the sampled professionals were twenty-four (24) expatriates who were trained and practiced abroad professionally, in the various aspects of building construction before they were redeployed to their Nigerian operational outlets.

RESULTS AND DISCUSSION

Table 1 provides information on the psychographic characteristics of the artisans. As indicated in the table, the respondents strongly agreed that commitment to deliver high quality work ($\bar{x}$ =4.14; SD=1.36), creativity in providing innovative solutions ($\bar{x}$=4.01; SD=1.29), independence/autonomy to showcase skills and expertise ($\bar{x}$ = 4.01; SD=1.26), taking pride in work and outcome of their jobs ($\bar{x}$=4.05;SD=1.23), safety considerations at work ($\bar{x}$=4.06; SD=1.24), integrity at work ($\bar{x}$3.81;SD=1.33) were noted to have influenced individuals' involvement in building construction activities.

The finding validates the result of earlier study that was conducted by Gyamfi *et al*. (2020) in the Ghanaian building construction sector that affirmed that handsome monetary incentives, regular training and retraining programmes as well as high quality working environment were the major strategies for enhancing the performance of artisans in the Ghanaian building construction sector. Also, the result was consistent with the work of Orando and Isabirye (2018) which identified six factors that are capable of influencing knowledge transfer in the South African construction industry to include individual attitude towards skills acquisition and development, level of education, employment conditions, organizational objectives towards employees' capacity building and organizational orientation to be a market leader in a highly competitive business environment. Furthermore, Hemamalini and Washington (2014) discovered that equity and fairness are strong impetus for workers' learning outcomes in the construction industry which normally strengthen their capacity to acquire the appropriate skills and knowledge, especially when all members of the organization are given equal opportunity to pursue their careers and are equitably rewarded for their efforts.

Table 1: Psychographic Characteristics of Artisans

Psychographic characteristics	Mean	Std. Dev	Decisions
Commitment to deliver high quality work	4.14	1.36	SA
Creativity in providing innovative solutions	4.01	1.29	SA
Independence/autonomy to showcase skills and Expertise	4.01	1.26	SA
Precision and accuracy in job performance	4.05	1.23	SA
Take pride in work and outcome of their jobs	4.06	1.24	SA
Safety considerations at work	3.90	1.33	Agree
Integrity at work	3.81	1.33	Agree

Source: Computed from the field survey, 2024.

Key:

0 - 1.0 = Strongly Disagree

1.01 -2.0 = Disagree

2.01 – 3.0 = Undecided

3.01 – 4.0 = Agree

4.01 – 5.0 = Strongly Agree

SA = Strongly Agree

A= Agree

Table 2 provides information on the psychographic characteristics of professionals in the building construction sector as captured in the study area. From the analysis, it was obvious that the respondents agreed with seven (7) out of the twelve (12) variables that were presented as factors influencing their involvement in the building construction sector. These include: good human relations among workers within the sector ($\bar{x}$= 3.16; SD=0.19), healthy organizational culture that is built around learning and skills acquisition ($\bar{x}$= 3.32; SD=0.12), high level of cohesiveness and cooperation among workers ($\bar{x}$=3.61; SD=0.15), length of work experience thereby making building construction activities interesting and pleasant ($\bar{x}$= 3.29; SD=0.21), high level of formal education that earns construction workers high reputation in the society ($\bar{x}$=3.94 ; SD=0.37), organizational norm that encourages total quality management ($\bar{x}$=3.55; SD0.12) and attractiveness of compensation plans for workers ($\bar{x}$=3.29; SD=0.43). These outcomes are consistent with the result of Boadu *et al*. (2020) who examined the characteristics of building construction professionals in Ghana and identified variables such as inadequate skilled and low-level educated workforce, over-reliance on traditional constructional techniques and absence of supervisory hierarchy as major challenges facing the sector. The study concludes by recommending strategic intervention in form of continuous mandatory trainings for professionals in the construction industry. Also, Dantong *et al*. (2017) assessed unethical professional practices on building construction sites in Nigeria and discovered that such actions are capable of encouraging poor quality workmanship, lack of transparency and accountability. Equally, Aidoo *et al*. (2016) investigated the importance of human relations among construction workers in Ghana and found out that human relations bring about cordial relationship among construction workers, that is capable of creating harmonious relationships, encourages employees' satisfaction and brings about operational efficiency. Also, Gao *et al*. (2019) examined relationships among construction workers in relation to work safety in China and identified four variables, to include; conscientiousness, extraversion, agreeableness and neuroticism that are capable of influencing workers' behaviour to be safety conscious. Furthermore, Simon and Varghese (2018) investigated the relationship between organizational culture and the implementation of lean philosophy in the Indian construction industry. The study affirmed that adherence to organizational culture brings about positive outcome in the successful implementation of lean construction philosophy.

Table 4.5: Psychographic Characteristics of Professionals

Factors/Variables	**Mean**	**Std. Dev**
Good human relations among workers within the sector	3.16	0.19
Conducive working environment in the building construction sector	2.77	0.42
Provision of adequate facilities, machines, equipment and tools, within the organization	2.93	0.29
Healthy organizational culture that is built around learning and skills acquisition	3.32	0.12
High level of cohesiveness and cooperation among workers	3.61	0.15
Length of work experience thereby making building construction activities interesting and pleasant	3.29	0.21
High level of formal education that earns construction workers high reputation in the society	3.94	0.37
Attractiveness of welfare packages	2.66	0.59

Regularity of training and workshop attendance	2.49	0.72
Value systems aimed at encouraging excellence within the organization	2.97	0.33
Organizational norm that encourages total quality management	3.55	0.12
Attractiveness of compensation plans for workers	3.29	0.43

Source: Field Survey, 2024

Mean > 3.0 = Significant

Strategies Adopted for Knowledge Transfer Among Workers in the Building Construction Sector

Table 3 provides information on the strategies adopted for knowledge transfer among workers in the building construction sector. From the analysis, 284 (93.7%) of the artisans were of the opinion that regular training was the strategy for knowledge transfer in the sector and all 24 (100 %) of the professionals agreed that regular training programme was the avenue for knowledge transfer in the study area. Also, 127 (41.9%) of the artisans agreed that workshop attendance was a strategy for knowledge transfer and 21 (87.5%) of the professionals agreed that it was a veritable avenue for knowledge transfer in the sector. Furthermore, 91(30.0%) of the artisans were of opinion that conference attendance was an avenue for knowledge transfer and that 15 (62.5%) of the professionals submitted that it was an avenue for knowledge transfer in the study area. Also, 159 (52.5%) of the artisans, and 20 (83.3 %) of the professionals believed that job rotation was a strategy for knowledge transfer in the sector. In addition, 261(86.1%) of artisans and 24 (100 %) of the professionals noted that mentorship and coaching were essential avenue for knowledge transfer in the study area. Finally, 87 (28.7%) of artisans and 13 (54.2%) of professionals agreed that discussions that are centered on operational problems done during lunch breaks and to learn about emerging developments in the building construction sector are the avenues for knowledge transfer in the study area. This finding is in consonance with the submission of Gumiński (2023) who discovered that conference attendance, acquisition of additional knowledge from newly employed workers with appropriate knowledge and competences, regular workshop attendance in which experts with special skills are engaged to demonstrate special skills to employees, to be major factors driving knowledge transfer. Also, the study is in line with the finding of Jadallah *et al.* (2021) which examined the competence level and the readiness of graduates of building construction technology in selected polytechnics in Southwestern Nigeria, as it relates with their readiness and capability to take responsibilities and discovered a declining trend in their practical competence to carry out building surveys, preparation of site reports aa well as documentation of reliable estimates for materials, labour and cost of construction works. The study thus recommended a review of curriculum of building construction technology, aimed at focusing on practical training that could encourage collaboration between institutions of higher learning offering training in building construction activities and the building construction industry.

Table 3: Strategies for knowledge transfer

	Artisans		**Professionals**	
Strategies Adopted	**Freq.**	**%**	**Freq.**	**%**
Training programs	284	93.7	24	100.0
Workshops Attendance	127	41.9	21	87.5
Conferences Attendance	91	30.0	15	62.5
Job Rotations	159	52.5	20	83.3
Mentoring and Coaching	261	86.1	24	100.0
Discussions concerning operational problems during lunch break	87	28.7	13	54.2

Source: Field Survey, 2024

Relationship Between Strategies for Knowledge Dissemination and Knowledge Acquisition Among Local Workers

Correlation analysis was conducted as depicted in Table 4 to determine the correlates of knowledge transfer from expatriates to professionals and artisans in the building construction sector. The results reveal that training programmes (r = 0.291), conference attendance (r = 0.312), job rotations (r = 0.539) and mentorship and coaching sessions (r = 0.439) were the identified correlates of knowledge transfer in the study area. Ezeokoli *et al.* (2021) examined problems confronting building construction sector in the Southeastern Nigeria and discovered inadequate technical and managerial skills, poor project planning as well as corruption among professionals, as the major challenges confronting the sector and thus recommended thorough capacity building in form of training and retraining exercises for the sector. Also, Worlu (2023) examined knowledge sharing practices on operational safety in the Nigerian building construction sector and identified nature of employees' training, the need for attitudinal modification of employees, level of education of individuals being trained, organizational policy and nature of government regulations in the construction sector as factors influencing knowledge transfer. However, Casyro *et. al.* (2012) who conducted a similar study in the Chilian building construction industry discovered quality of information, organizational culture, human factors, innovation capabilities of construction workers, adoption of information and communication technology (ICT) and nature of knowledge to be transferred as the major factors influencing knowledge transfer in that country's construction industry.

Table 4: Strategies and Knowledge Relationship (Correlation)

Strategies Adopted	Corr. Coeff.	Sig.	Decision
Training Programs	0.291	0.040	S
Workshop Attendance	0.155	0.261	NS
Conference Attendance	0.312	0.005	S
Job Rotations	0.539	0.002	S
Mentoring and Coaching sessions	0.426	0.003	S
Discussions concerning operational problems during lunch break	0.148	0.528	NS

Source: Field Survey, 2024

CONCLUSION AND RECOMMENDATIONS

The study revealed that commitment to deliver high quality work, imbedded creativity in providing innovative solutions, independence/autonomy to showcase skills and expertise, taking pride in work and outcome of their jobs, giving consideration for safety at work among others are some of the psychographic characteristics of artisans for knowledge transfer in the building construction sector. Also, the study affirmed that good human relations among workers, healthy organizational culture that is built around learning and skill acquisition, high level of cohesiveness and cooperation among workers, length of work experience thereby making building construction activities interesting and pleasant, as well as high level of formal education that earns construction workers high reputation in the society are some of the identified psychographic characteristics of professionals for knowledge transfer in the study area. The study established that training programmes, conference attendance, job rotations, mentorship and coaching sessions were the identified factors influencing knowledge transfer in the study area. The study thus recommends that the Lagos State government, through the Ministry of Employment and Wealth Creation develops a regulatory framework that makes verifiable explicit and implicit knowledge transfer programme for artisans and professionals a compulsory requirement for multinational building construction firms that are operating in the study area. It is also necessary for the multinational building construction firms to regularly redeploy their workers to various units and departments, so as to encourage improved level of fertilization of ideas in order to ensure improved innovative activities at the construction sites. It is also recommended that high level of cohesiveness that is a necessary condition for

mentorship should be encouraged in the multinational building construction companies operating in Lagos State. This can be achieved through the establishment of social or recreational clubs within the organizations in order to ensure improved collaboration among workers, especially between the expatriates and indigenous workers of the multinational building construction firms. It is equally recommended that a special unit that should be responsible for the measurement of implicit and explicit knowledge acquired by the local artisans and professionals be created in the Lagos State Ministry of Employment and Wealth Creation so as to regularly determine level of knowledge transferred from the multinational building construction firms to the locals in order to encourage improved level of technology spillover in the sector.

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