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LOCAL CONSTRUCTION COMPANIES' CAPACITY BUILDING THROUGH FOREIGN COMPANIES' STRATEGIC PARTNERSHIP

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How the local construction companies in Africa can better manage the challenges they face through strategic partnerships with the foreign construction companies has been under-researched, both empirically and theoretically. Premised on the increasing presence of foreign construction firms in most African countries, this study investigated different approaches of strategic partnership for capacity building of the local construction firms by their foreign counterparts. Using Nigeria as a case study due to its sheer market size, an integrative literature review was used to identify 23 challenges facing local construction firms. 88 registered local client- and consultant-based construction professionals (85% response rate) participated in the cross-sectional survey using a web-based semi-structured questionnaire. Data were descriptively- and content-analysed. Results showed corruption, delayed payment, political instability, research and development, market forces/inflation, and modern innovation as challenges in the 25th percentile. The approaches most frequently recommended for the strategic partnerships centred around training and funding opportunities, laws and regulations for competition and technology transfer, and investments in research and development. This study concluded by flagging the potential downside of focusing on top-ranked challenges because of the systems nature of construction projects, hence the interconnectedness of the challenges. More so, in view of the inevitable broad thinking that characterises and distinguishes a strategic fit from a mere strategy.

Keywords: capacity building, challenges, Nigeria, strategic partnership, pragmatism

INTRODUCTION

The definition of the term 'construction' is expansive (Ofori 1990, pp.23-4; Wells, 1984). Hence, the emerging debate as to whether it is an industry or a sector with many industries (Ofori, 2015). This is a reason that the construction industry has, historically, accounted for a major proportion of the gross domestic product (GDP) of most countries (Crosthwaite, 2000). Keynesian philosophy based models are

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commonly used to analyse the complex relationship between a country's level of construction activity and its stage of economic development (Ruddock & Lopes, 2006). The significant relationship existing between the construction industry and economic growth continues to influence globalization or internationalization of the industry (Dang & Low, 2011). However, the requisite enabling factors to venture into international construction (Gunhan & Arditi, 2005) favour players from the developed countries. The resultant one-sided gain is the basis for the clamour to create strategic partnerships for mutual benefits of players from the developing countries alike (Ngowi et al., 2005). Mutuality is necessary to sustain the much-desired performance trends in international construction (Horta et al., 2013).

Edmonds (1979) has rightly concluded on the inevitable role of foreign-owned construction companies in the delivery of mega infrastructure projects in developing countries, until the time that the domestic sector develops its capacity—technical, financial, managerial, and social. Nigeria is the most populous country in Africa and its about 170million people population, as at date, is poised to more than double by 2050, to become world's third most populous country after India and China (UN-Habitat, 2016). Already noted as having an overall urbanization of 50% (Oluwakiyesi, 2011), towns and cities in Nigeria are growing at 5%-10% annually (Aliyu & Amadu 2017). The unabated growth in urbanization is beyond the existing infrastructure capacity and gap-bridging capacity of the domestic construction players in Nigeria (Mudi, Bioku & Kolawole, 2015). However, the positive impacts of foreign direct investments in infrastructure building in Nigeria (Imoudu, 2012) and general industrial development from globalization (Ebong, Udoh & Obafemi, 2014) have seen to international construction companies making unguarded inroads to the point of dominance (Oluwakiyesi, 2011).

A catch-22 scenario has thus ensued where, on the one hand, foreign construction companies have been noted as contributing to Nigeria's construction industry (Babatunde & Low, 2013). On the other hand, significant threats from imported professional services and diminished opportunities to develop local professionals (Mbamali & Okotie, 2012) shade the opportunities. Protectionist policies do more harm than good to countries with inefficient industries (Fouda, 2012). Consequently, it is worthwhile to embrace the alternative of creating an enabling environment to nurture comparative and strategic advantages (Egan, 2003). Pandey's (2018) Opportunity-Threat Theory, for decision-making under risk, supports the alternative of strategic partnerships. Also, uncertainties and strategic opportunities are conjoined (Price, 1982) and local construction firms in Nigeria are notably developing their competences for improved competitiveness (Ogbu, 2018).

The plausible research question arising from the preceding discussion is what are the different forms of strategic partnership for capacity building of the local construction companies by the foreign construction companies? This study aims to investigate different approaches of strategic partnership to enable capacity building of the local construction companies in Nigeria. The objective is to assess the significance of the factors affecting the local construction companies in Nigeria to propose the best strategic fit partnerships with their foreign counterparts.

LITERATURE REVIEW

The mode of the preceding research question is neglect spotting; specifically, under-researched area (Hällgren 2012, pp.806-7). Challenges facing local construction companies in Nigeria have been well-researched over the years (Aniekwu, 1995; Ilori et al., 2002; Kehinde & Mosaku, 2006; Idoro, 2010; Adeleke et al., 2018). However, how to overcome the challenges through strategic partnerships with the foreign construction companies in Nigeria has been under-researched, both empirically and theoretically. Since theories lay the foundation for empirical works (Koskela & Howell, 2002), this study uses the integrative literature review to identify the major challenges facing local construction companies in Nigeria as a basis to, empirically, establish the significant problems for strategic partnerships. As the name implies, the integrative literature review gathers representative literature on a topic in an integrated manner to offer new viewpoints (Torraco, 2016). Following Torraco's (2005, p.365) steps for writing an integrative literature review, Google Scholar search engine keywords were used to identify the relevant literature. The titles, abstracts and list of references of the studies identified were reviewed to decide if the studies were authoritative and representative. Google Scholar search engine was preferred for a wider spread to access scientific research papers both from the mainstream and alternative publication channels, in so far as they satisfy the inclusion criteria.

Conceptual framework and theoretical framework

The conceptual framework used in this study is strategic fit, which Chorn (1991, p.20) articulates as 'aligning organization and environment'. It can then be reasoned that strategic fit is based on the Alignment Theory (Chorn, 1991) and the Opportunity-Threat Theory (Pandey, 2018). These two theories serve as the theoretical framework in this study. Following from the preceding discussion on the research question, type of literature review, conceptual framework and theoretical framework, the subsequent sub-sections under this literature review focus on the challenges facing local construction companies in Nigeria. The terms local, indigenous, and domestic have been used interchangeably in this study to refer to non-foreign owned construction companies in Nigeria.

Construction business environment in Nigeria

Seminal studies have broadly categorized the problems of the construction industry in Nigeria as structural, arising from inherent conditions and practices (Aniekwu & Okpala, 1988a) and systemic, arising from the application of unsuitable systems (Aniekwu & Okpala, 1988b). A subsequent study (Aniekwu, 1995) re-categorized the structural and systemic problems into four main groups including the business environment, contracts, capacity, and institutions. Most of the factors identified as adversely affecting the construction industry in Nigeria were categorized under the business environment, which, in the first instance, dictates the systems and structures guiding the construction industry's activities. For example, the oil and gas sector remains the biggest contributor to GDP in Nigeria with ongoing efforts to boost economic activities in the industrial and manufacturing sectors to improve the country's global competitiveness (Chete et al., 2014). Added to this macro level challenge is the preference by the more organized clients in Nigeria to opt for expatriates for better performance (Idoro, 2010). This necessitates local construction companies in Nigeria strategically

managing their operations. Strategic management is a 'special management process or system that links strategic planning and decision making with the day-to-day business of operational management' (Gluck, Kaufman & Walleck, 1982, pp.9-10). The strategic efforts by the local construction companies are eventually paying off. For example, the views from Nigerian public and private clients have unearthed statistically significant survival practices among the local construction companies (Ogbu, 2018).

Specific challenges facing local construction companies in Nigeria

The increasing and, arguably, domineering presence of foreign construction companies in Nigeria suggests that the local construction companies should move towards strategic partnerships with their foreign counterparts. The critical development programmes for contractors in Nigeria (Adams, 1995) requires more concerted efforts beyond those that can be provided by local stakeholders. Partnership formation with the foreign players must be guided by strategic fits, which depends on the interplay between competitive situation, strategy, organization culture and leadership (Chorn, 1991). This gives credence to the objective of this study as being to assess the significance of the factors affecting the local construction companies in Nigeria to propose the best strategic fit partnerships with their foreign counterparts.

Table 1: Challenges facing local construction companies in Nigeria

Challenges	Supporting Literature
Access to credit/loan	Akinleye, Olarewaju & Fajuyagbe (2019)
Contract management	Saka, Olaore & Olawumi (2019)
Contract rules and regulations	Rasul & Rogger (2018)
Corruption	Otusanya & Lauwo (2019)
Cost and time performance	Amusan et al. (2018)
Delayed payment	Gambo, Said & Ismail (2016)
Entrepreneurial skills	Okonkwo (2019)
Estimating and tendering	Ahmed, Musonda & Pretorious (2019)
Financial capacity	Oladimeji & Aina 2018
Financial management skills	Ojo & Odediran (2015)
Leadership and communication	Waziri, Ali & Aliagha 2015
Level of professionalism	Ikuabe & Oke (2019)
Market forces/inflation	Adeleke et al. 2018
Material supply base	Garba, Olaleye & Jibrin 2015
Modern innovation	Aduwo et al. 2016
Plant and equipment	Aka et al. (2019)
Political instability	Adetiba (2019)
Procurement procedure	Awodele et al. (2019)
Project planning and control	Ogunde et al. 2017
Research and development	Yapicioglu, Mogbo & Yitmen (2017)
Technical competence	Dosumu & Aigbavboa (2019)
Training opportunities	Oyewole & Dada (2019)
Unfair competition	Anthony, IS, Modo & Anthony, OI (2019)

The following Google Scholar search engine keywords (in alphabetical order) were used to access and review the titles and abstracts of the relevant studies towards

fulfilling the objective of this study: building, challenges, construction, domestic, indigenous, industry, local, and Nigeria. Table 1 presents the specific challenges facing local construction companies in Nigeria, arranged in an alphabetical order to avoid repeating the challenges.

METHODOLOGY

Methodology includes the methods and techniques used to systematically solve a research problem (Kothari, 2004). The research onion is the most common model used to describe the methodology (Holden & Lynch, 2004). This study is based on the pragmatism research philosophy, which bridges the idealist positivism and relativist interpretivism philosophical stances (Morgan, 2014). The research approach is abduction, which borders between the induction approach for theory building and deduction approach for theory testing (Patokorpi & Ahvenainen, 2009). Consequently, this is a mixed-method research based on the qualitative and quantitative approaches or methods (Shannon-Baker 2016).

Research design

Cross-sectional survey design was used because the study intended to obtain a snapshot of opinion for a given time as against establishing a trend over time (Rindfleisch et al., 2008). A cross-sectional study is about the prevalence of the phenomenon under investigation for the selected time-frame, hence its advantages and disadvantages (Sedgwick, 2014). Survey design desirably allows for ample data collection within the available resources and representativeness of the sample from which data were collected (Kelley et al., 2003).

Research method

A 3-section-web-based semi-structured questionnaire was used to collect quantitative and qualitative data from the target population for anonymity, flexibility and ease of data management (Newman et al., 2002). The first section sought data on the profile of the target population. The second section sought quantitative ordinal data on the level of impact of the 23 challenges (Table 1) on capacity building of the local construction firms from 1 (minimal impact) to 5 (very severe impact). The third section sought qualitative data on the strategies for the foreign and indigenous firms to work together for capacity building of the latter. Combining quantitative and qualitative data allows for methodological triangulation (Fielding, 2012), desirable to achieve this study's objective.

Population and sample

For practical purposes, the target population for this study comprised of local construction project consultants and clients, whose total population was, regrettably, indeterminate. A sample of this target population was non-probability-multi-stage-purposeful sampled (Teddlie & Yu, 2007) from a self-designed sampling frame (SF). The SF was generated from email addresses of known registered construction professionals from the researchers' networks. The initial SF was further populated through self-provided email addresses from interested participants identified through close-knit WhatsApp groups of registered construction professionals. 104 sample size emerged and was sent the link to the web-based questionnaire via email. 88 complete responses were returned, representing 85% response rate, attributable to the sampling technique used.

RESULTS AND DISCUSSION

Descriptive analysis of the data obtained via the first section of the questionnaire revealed the 88 professionally-registered respondents to be largely client-based (69%), followed by consultants (24%) and others (e.g., academics) (7%). The respondents were predominantly (62%) holders of MSc degrees or above, followed by BSc honours (31%) and others (e.g., PGDs) (7%). They were engineers (27%), quantity surveyors (26%), architects (23%), project managers (23%) and others (e.g., facilities managers and planners) (1%). The average years of working experience was 15 years with majority (65%) from organizations with employee size of 1-50, involved in residential (67%) and/or infrastructure (51%) projects.

Table 2: Impact of the challenges on capacity building of local companies in Nigeria

Challenges	M	SD	CV	M-4.000	Z-Score	Percentile
Corruption	4.284	0.870	0.203	0.284	0.326	63%
Delayed payment	4.218	0.882	0.209	0.218	0.247	60%
Political instability	3.966	0.999	0.252	-0.034	-0.034	49%
Research and development	3.793	1.036	0.273	-0.207	-0.200	42%
Market forces/inflation	3.784	0.976	0.258	-0.216	-0.221	41%
Modern innovation	3.716	0.934	0.251	-0.284	-0.304	38%
Contract rules and regulations	3.625	1.032	0.285	-0.375	-0.363	36%
Training opportunities	3.602	0.989	0.275	-0.398	-0.386	35%
Access to credit/loan	3.545	1.164	0.328	-0.455	-0.391	35%
Project planning and control	3.409	0.866	0.254	-0.591	-0.682	25%
Financial capacity	3.409	1.228	0.360	-0.591	-0.481	32%
Procurement procedure	3.402	1.005	0.295	-0.598	-0.595	28%
Financial management skills	3.333	0.923	0.277	-0.667	-0.723	23%
Cost and time performance	3.318	1.000	0.301	-0.682	-0.682	25%
Unfair competition	3.307	1.168	0.353	-0.693	-0.593	28%
Level of professionalism	3.261	0.977	0.300	-0.739	-0.756	22%
Plant and equipment	3.239	0.971	0.300	-0.707	-0.728	23%
Technical competence	3.105	1.128	0.363	-0.895	-0.793	21%
Material supply base	3.102	1.104	0.356	-0.898	-0.813	21%
Entrepreneurial skills	3.034	0.933	0.308	-0.966	-1.035	15%
Contract management	2.875	1.015	0.353	-1.125	-1.108	13%
Leadership and communication	2.864	0.937	0.327	-1.136	-1.212	11%
Estimating and tendering	2.375	0.900	0.379	-1.625	-1.806	4%

For the quantitative data obtained through the second section of the questionnaire, Table 2 presents the result of the mean (M), standard deviation (SD), coefficient of variation (CV), z-score (Z) and percentiles of the rating (in descending order) of the 23 challenges affecting capacity building of local construction firms in Nigeria. M has been used to rank the challenges, while SD expresses variability that CV helps to interpret better especially when and where M are almost the same. Z is the number of SDs from M, also referred to as the normal deviate (Colan 2013). Converting the z-score to percentile is a six-sigma technique (Sauro & Kindlund, 2005) based on the following steps (Sauro, 2011):

1. Deciding on and subtracting 80% of the Likert scale adopted (i.e., 4) from M, 80% benchmark is the tolerable possible performance penalty;
2. Dividing the difference by the SD to obtain the z-score, which informs on how many SD falls above or below the benchmark;

3. Converting the z-score to a percentile rank using a calculator (e.g., https://measuringu.com/pcalcz/) or lookup the z table; and
4. Interpreting the percentile as a function of the data points above or below the mean to gauge significance.

For example with respect to Table 2 and based on the preceding steps, corruption ranked topmost as having the most severe impact. Its mean score of 4.284 had a percentile of 63%, thus holding only 37% of the respondents below the mean score. Corruption is endemic in Nigeria with the multinational companies having also been found to be involved (Otusanya, 2011). Estimating and tendering ranked lowest with 96% below its mean score of 2.375. Its z-score of -1.806 correspond to about 2 SDs below the mean (Colan, 2013), meaning its significance is actually low. This is unsurprising considering the existence of self-assessment tools for quantity surveying firms in Nigeria to gauge and improve their performance (Osunsanwo & Dada, 2019).

For the qualitative data obtained through the third and last section on the strategies for the foreign and indigenous firms to work together for capacity building of the indigenous firms, qualitative content analysis was performed. TagCrowd (https://tagcrowd.com) was used to analyse the textual responses received from 72 of the 88 respondents. The following steps were followed to perform the textual analysis:

1. Pasting the full textual responses in the visualization box on tag crowd;
2. Selecting from the default options: (i) maximum number of 50 words to show, (ii) words of minimum frequency of 5 to show, (iii) selecting "yes" to show frequencies, and (iv) indicating not to show the following words considered inevitable in the responses: building, capacity, companies, construction, firms, foreign, indigenous, industry, local, and Nigeria; and
3. Clicking visualize!

Figure 1: Frequent words in capacity building strategies for local construction firms

Figure 1 shows the visual result of the analysis, which reveals the top-three most frequent words to be training (23), projects (19), and work (15).

These top-three frequent words were then linked back to the respondents for contexts.

Table 3: Capacity building strategies for local companies in Nigeria

Category	Verbatim response
Training	"…the foreign companies can provide financial guarantees or funding, training and technical expertise." – Building Service Engineer "All foreign firms must have a training arm which they should use for capacity building. This will also provide [the opportunity of] vocational certification for all graduates of this process." – Architect "Recognizing that indigenous companies are at a competitive advantage, the Nigerian government should provide training grants for indigenous companies or incentivize foreign companies who provide capacity building to local companies or management level training to indigenous staff." – Project Manager
Project	"…some form of law should be enacted by the relevant bodies for foreign firms to be subletting [i.e., sub-contracting] a certain percentage, (let's say 10-15%) of their projects to indigenous firms under their direct supervision, in order to increase their financial base…" – Architect "Research and development [R&D] should be a top priority. Foreign firms tend to use whatever works elsewhere on Nigerian projects and the indigenous firms tend to lift these practices directly. R&D will bring about best practices and materials for construction in Nigeria and gradually indigenous firms will be able to take up a bigger role in the industry." – Architect "Enacting policies that will only allow foreign companies to engage in equal partnership with indigenous companies and subcontracting of projects [to the indigenous companies] by any means should be prevented." – Urban & Regional Planner & Landscape Architect "There should be a sound legislation or a legal framework to require foreign companies to transfer knowledge as well as lessons learnt from indigenous projects. Not only that, there should be a road map that indicates how that can be achieved as well as a sound measure to check how local companies are incrementally learning from these foreign 'expats'." – Quantity Surveyor "… a clear policy on class of projects to be awarded to foreign companies is a good start. … Once this is enforced, some of the activities will be more profitable to the foreign companies if they were [sub-]contracted to indigenous firms … as a result of their need for minimum standards of performance in subcontracted activities [which will naturally develop interest in the competence and capacity of the locals completing those activities…" – Project Manager "… regulatory bodies have strong roles in enforcing quality assurance and quality control. Many construction projects are completed without even a single visit by the regulatory bodies to the project site. This must be corrected to ensure that indigenous companies perform better in the[ir] services." – Electrical Engineer "Joint venture between the foreign and domestic companies is the best strategy for capacity building of [the] indigenous firms. Foreign companies should not be awarded projects without local content." – Architect
Work	"Opportunity should be given to indigenous construction firms to compete with their counterpart foreign companies. It will go a long a way in building the indigenous companies. Most of the works that foreign companies are doing are [actually] the local people doing it except the supervision by the foreign ones." – Quantity Surveyor "Legislation should ensure elimination of double standard in employment of foreign and Nigerian workers on the same level with incomparable salary schemes. More emphasis should be laid on training more project managers as well as artisans and expose them to world class software and building standards." – Civil Engineer

A second-level textual analysis was thereafter performed on responses having the top-three frequent words in sequence to identify theme(s). The second-level

textual analyses followed the same steps as the first-level analysis, except for adding not to show the words training, project, and work (all singular) while performing respective analysis. The second-level analyses returned one most frequent word for training, project and work as "provide" (5), "projects" (19), and "building" (6) respectively. These words were linked back to the respondents as presented in Table 3. A cross analysis of the results in Tables 2 and 3 (for methodological triangulation) suggests that the strategic fit partnerships cannot be based on the ranks of the challenges. This is the major drawback of most of the existing studies that have focused on the top-ranked challenges. The systems nature of construction projects (Li & Love, 1998; Aritua, Smith & Bower, 2009) and complexity in project management (Cristóbal, 2017) cannot be ignored. Table 3 thus validates the elements of strategic fits that Waterman Jr. (1982) advanced. It also resonates with Omokaro-Romanus, Anchor and Konara's (2019) findings of an emerging/growing internationalization strategy by the Nigerian firms.

CONCLUSIONS

This study aimed to investigate different approaches of strategic partnership to enable capacity building of the local construction firms in Nigeria by the foreign construction firms. Its objective was to assess the significance of the factors affecting the local construction companies in Nigeria to propose the best strategic fit partnerships with their foreign counterparts. Methodological triangulation performed through a cross-analysis of the ranks of the 23 challenges and the frequently-occurring strategies proved that the best strategic fit partnerships would be those that span the challenges. Of course, emphases should be placed on training/funding opportunities for the local firms, laws and regulations on competition and technology transfer should be put in place, and concerted efforts channelled towards investments in collaborative research and development to put the local firms at the frontline of construction innovation. The practical implication of the results of this study is a paradigm shift away from the top-ranked challenges to propose solution to the challenges facing local firms in Nigeria and beyond. This is because of the systems and complex nature of construction projects. For example, corruption, delayed payments, and political instability were ranked high as severely impacting capacity building of the local firms, however, there was no direct link to the most frequently occurring strategies, except implied. The theoretical implication is an in-depth look into the influence of the complex adaptive nature of construction projects in the challenges facing the players therein. The limitation of this study is the potential impact of the selection bias arising from the non-probability sampling technique used. On generalizability of the result, the sample size of 88 corresponds to a confidence interval of 90% and p-value of .10. This restricted limitation presents opportunities for another future empirical study.

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