



Factors Affecting the Competencies and Project Delivery of Small-Sized Indigenous Construction Firms in Lagos State

Dr Ayodeji Ogunde¹; Dr Dele Owolabi²; Dr K.O. Olusola³;
 Dr. Patience Tunji-Olayeni⁵; Dr. Lekan Amusan⁴;
 Dr.Opeyemi Joshua⁶; A. O Akhigbe⁷

Department of Building Technology,
 Covenant University, Ota. Ogun State. Nigeria

Abstract: Every industry is prone to problems Performance is a general challenge affecting construction and most especially small-sized indigenous construction companies. The study focused on determining the likely factors affecting the competencies and project delivery of small-sized construction firms in Lagos. 60 questionnaires were designed and administered to professionals (15-Architects, 15-Builders, 15-Engineers, and 15-Quantity Surveyors) working in the construction companies in Lagos State and 48 questionnaires were retrieved. These questionnaires were analysed with SPSS and several findings were derived from this analysis. The various factors affecting the performance and project delivery at varying degrees are: high cost of plants, equipment, materials and labour, lack of skilled craftsmen, unavailability of funds, poor managerial skills, lack of government patronage, and poor communication among stakeholders. The study found out that the most prominent factors are poor managerial skills, lack of project planning and unavailability of funds. The main factors affecting the performance of small sized indigenous construction firms are based on three key elements namely time, quality and cost. These three elements when properly harnessed will increase the performance of small sized indigenous firms. The study recommended that the use of ICT would help improve performance by making work flow more easily. Access to bank loans and more machinery on site and sufficient government patronage would improve performance. It concluded that better management and project planning would go a long way in improving competencies and project delivery of small sized construction firms.

Key Words: Construction, indigenous firms, Performance, Small-Sized.

1. Introduction

Building construction is the process of assembling materials to form a building; it is generally performed by labourers and craft people engaged by an individual or organization called a contractor

(Chudley and Greeno, 2010). The construction industry is made up of an organised formal sector of foreign companies and unorganised sector which comprises indigenous companies. They are classified into small, medium and large scale according to their levels of capitalization

and annual turnover. Indigenous construction firm is one that is established under the Nigerian decree and has no other home base but Nigeria. According to McGarvey, Booker and Stafford (2013), the size of building construction firm is determined by the number of employees. The small building firms have employees less than 10, while medium sized contractors have workers ranging between 10 and 499 while large sized contractors have above 500 workers on their payroll. Foci Report (2012) defined performance as the execution or accomplishment of work, acts or feats. Project performance is a critical issue for the construction industry and success of construction projects depends mainly on success of performance. Performance is related to many topics and factors. It is important to recognize the factors that affect performance in the construction industry particularly small indigenous companies. There are several factors from financial management to material and equipment and so on.. A lot of small indigenous companies have been subject to these factors in terms of cost, inadequate infrastructure, absence of motivation, and so on.

It is shown from previous studies (Karim and Marosszeky, 1999; DETR (Key Performance Indicators Report), 2000;

Lehtonen, 2001; Samson and Lema, 2002; Kuprenas, 2003; Cheung et al, 2004; Iyer and Jha, 2005; Navon, 2005; Ugwu and Haupt, 2007) that the failure of any project is mainly related to the problems and failure in performance. However, the study focused at determining the likely factors affecting competencies and project delivery of small-sized construction firms in Lagos and how these factors affect project cost, time and quality. The study highlighted the challenges small sized indigenous firms are facing, showed the relevance/importance of management in construction project and recommended solution for owners of small sized indigenous firms to help them avoid performance challenges. This study will add to the existing body of knowledge. Lastly, the study also acts as a guide for further and more detailed studies on the subject matter.

The scope of this research is limited to identification of essential factors affecting performance of indigenous construction firms in Lagos. Indigenous construction firms can be classified as small, medium and large scale. This study focused on small scale because most times studies were carried out on the medium and large scale firms and the small scale firms seemed neglected. The study is limited to only construction firms

in Lagos state. Lagos state is chosen because a lot of construction is taking place in Lagos state presently. herefore conducting this research now gives a better understanding on the factors affecting competencies and project delivery of small indigenous construction firms and also because there is easy access to information.

2. Literature Review

In many countries, researchers use different definition and criteria for the term small scaled firms Small sized construction firms are firms that can be identified by their stratification, annual turnover, number of employees, total amount of wages and salaries, number of machinery and registrations category with the federal board. Firm size can be defined as the level of economic activity and capacity; valuation criteria of a firm are based on two different criteria, qualitative criteria and quantitative criteria (Basmanav, 2001). Qualitative criteria to identify the size of a firm are independent management, working for local market, having a very small part in the sector and having main capital of the firm supplied by the owner of the firm. Quantitative criteria to identify the size of a firm is defined by the number of employees, firm capacity, the total amount of wages and salaries, total amount of firm capital, production amount, total

amount of sales, machinery pack size, total of active values, and amount of raw materials used (Olcay, 2010). The number of employee criteria is the most used criteria because it is easily determined. Any of these criteria can be considered to define a firm's size (Alpugan, 1998). According to the Oxford dictionary, performance is defined as the manner in which or the efficiency with which something fulfils its intended purpose. According to Krishna *et al.* (1999) countries that have better institutional development, as measured by the efficiency of their judicial system, have larger firms. Also, firm size should be positively correlated with financial development. Large firms can be differentiated from small and medium firms by their extensive structures.

2.1 Features of small sized construction firms

According to Dinmez (2005), there are different characteristics or features of small sized construction firms and they are management, strategic planning, organization, finance, accountancy, marketing and sales, public relations, human resources, information technologies. In small sized firms, there is a management type which is not professional and is managed by one person's decision and benefits. According to Olcay (2010), project management

techniques are not used and since there is no management in which the decisions are taken by forming strategies in a planned way, the firm will experience a lot of problems. In small sized construction firms, the firm owner has to deal with issues such as financing, organization, marketing and sales, material supply and employment of qualified personnel and workers as well as taking management decisions. In small sized construction firms department of sale, financing and human resources are unavailable. Small construction firms do not have financing departments and a financing expert as that would increase cost and financial alternatives. Generally in small sized construction firms, one person is enough to keep all accounting records. However, because only one person is handling the accounting records, the possibility of a mistake is almost inevitable. In small sized firms, public relations do not work as a separate department. A desk study of road projects data at Roads Authority Malawi showed that outstanding among Small Scale Construction firms' shortfalls were poor quality of work, failure to complete projects on time, and poor tender preparation and estimation Kulemeka, Kululanga, and Morton (2015). Chilipunde, (2010) highlighted constraints and

challenges faced by small, medium and micro enterprise contractors in Malawi emphasized that timely delivery of projects is one of the important needs of clients of the construction industry.

2.2 Nigerian Construction Industry Overview

The construction industry is regarded as one of the most important sectors of every economy in the world. The Nigerian construction market is among the largest construction markets in Africa, (Foci Report 2012). According to forecast by Global Construction Perspectives and Oxford Economics (2010), Nigeria's construction industry is growing fast and is likely to grow very large over the next decade. The industry is made up of an organised formal sector and an unorganised informal sector. The formal sector comprises foreign and indigenous companies, which are classified into small, medium and large scale according to their level of capitalisation and annual turnover. According to the Foci Report (2012), the Nigerian construction market is dominated by foreign companies, which is similar to most African Countries. A large proportion of these major constructing firms in Nigeria are subsidiaries/affiliates of European, North American and Asian construction firms. However, governments, private clients and individuals award

building contracts to local construction companies. The industry also employs a large number of people and therefore it has an effect on the economy of a country during the actual construction process. According to Mafimidiwo and Iyagba (2015), one of the key player in the construction project team is the contractor (Usman, *et al.* 2012; Idoro, 2011;). Construction contractors are entrepreneurs involved in the management of construction projects (Inuwa *et al.* 2013; Harris and McCaffer, 2005). Firms, companies or organizations that execute construction works are referred to as contractors. They offer their skills and services and accept the challenge of executing the works in exchange for financial reward, (Ugochukwu and Onyekwena, 2014). Odediran *et al* (2012) opined that like other nations of the world, building contractors in Nigeria could be classified as small, medium and large. In Nigeria, large firms are majorly dominated by the expatriates with very few indigenous that could be categorized as medium while most are categorized as small size firms. Idoro (2011); Idoro and Akande-Subar (2008), Muazu and Bustani (2004) categorized construction contractors by several criteria: scope of operation (local, regional, national and multinational); specialization (building and

engineering); size and category of contracts (small, medium and large); and the nationality of owners of the company (foreign and indigenous). It has been reported by researchers (Takim and Akintoye, 2004; Kashwagi, 2004) that most clients are dissatisfied with the outcome of construction projects, especially because their expectations are not met.

Ugochukwu and Onyekwena (2014) in their research on the participation of indigenous building contractors in Nigerian public sector construction projects and their challenges in managing working capital found out that the common challenges facing Nigerian indigenous building contractors in Nigeria in the area of working capital management are low awareness of the need for working capital management, one-man business setbacks, under-capitalization, poor funding and cash flow problems, high cost of construction finance, economic recession, reckless spending and diversion of funds, poor project planning and control.

2.3 Factors Affecting Performance of Small Sized Firms

In the study of small sized construction firms, it is observed that small indigenous firms in Nigeria face similar problems as small firms in other developing countries. There are some problems that have been

identified in different literature reviews and they are as follows :lack of finance, delay in the payment of contractors for work done, changes/ variations, low morale and motivation of craftsmen, poor management skills, material and plant related factors like unreliable material base and availability of plants and equipments, poor communication, cost factor, time factor, quality factor. (Ugochukwu and Onyekwena, 2014; Odediran *et al.*, 2012, Mansfield *et al.* 1994 , Wasi *et al.*, 2001, Eshofonie, 2008; Ibironke *et al.* 2011 Abdullah, Bilau., and Enegbuma. (2011); Amoah, Ahadzie , and Dansoh (2011).

2.3.1 Poor Managerial Skills

Management has the most significant influence on the continual survival of construction firms in Lagos state (Odediran, *et al.*,2012). According to Mansfield *et al.* (1994,) management challenges may occur during a project due to the way contracts are awarded. In most cases projects are awarded to the lowest bidders and some of these low bidders may lack management skills and over all site management and allocation skills. Wasi *et al.* (2001) noted that deficiency in planning and management skills is said to be the greatest single problem for small-scale contractor but it does not only affect small scaled contractors but also small sized

firms. Management is very important to adequately face difficult challenges because without managerial skill it would be impossible to manage workers, materials, resources and the whole construction project successfully.

2.3.2 Financial Management

Financing a project is a very tasking job. All resources need to be controlled: labour productivity, material availability, material waste, good and effective methods, using effective tools, equipment, good project planning and scheduling (Eshofonie, 2008). According to Wasi *et al.* (2001), sometimes project funds can be used for personal matters which could lead to financial strain in projects. Financial factors such as insufficient profit, heavy operational expenses, insufficient profit, country's economic conditions, poor estimating and job costing are also identified as causes of failure (Amoah, Ahadzie, and Dansoh 2011). According to Odediran *et al.* (2012), majority of these firms do not have the capacity to finance a project after from the finance originally contributed by the client and therefore cannot go into long term financing and partnership. Adediran *et al.* also stated that most of the projects handled by small sized indigenous firms are funded by the clients' personal funds. These firms most times do not get bank loans to

finance the project, and there is also a poor saving culture among the firms

2.3.3 Time factor -Changes/ Variations

This challenge can occur from inadequacy of project planning and management of the design process. It can also be a fault on the part of the architect and structural engineer in their architectural and structural designs respectively. There might be variations in their drawings. The client can also change his mind about a particular design and changes would have to be made. Frequent changes to design can cause workers to lose interest in the project. Examples of other time factors include time needed to rectify defects, site preparation time, percentage of orders delivered late, etc (olcay 2010; Azlan and Ismail 2009.)

2.3.4 Cost factor -Material and equipment cost

Material and equipment cost is one of the project cost components that affects owners liquidity and project budget. Most heavy equipment run by diesel fuel and the price of diesel fuel has increased significantly (Eshofonie, 2008). Also unreliable material base and unavailability of plants and equipments can affect a project. In order to meet certain production targets and carry out projects on time, it is necessary to introduce mechanical plants and

equipment to improve man power. Other cost factors include cash flow of project, project design cost, overhead percentage of project, profit rate of project, waste rate of materials etc (Chilipunde, 2010;Free library, 2009)

2.3.5 Quality Factors

Due to the nature of small sized firms, most firms lack the availability of competent staff as hiring a well-qualified staff with experience can be too expensive for the firm. Thus there may be challenges during a project like workers or contractors not following the right procedures or working in accordance to specifications given. There may also be the challenge of using substandard raw material in the vein of saving cost. This can reduce the life span of the building, risk the lives of occupants, increase maintenance work and even cause the collapse of a building. Other examples of quality factors include quality assessment system in organisation, quality training/meeting, etc (Ugochukwu and Onyekwena, 2014;Free library, 2009).

2.3.6 Delay in the Payment of Contractors for Work Done

Paying contractors on time can be a good source of motivation for them to work more and even worker harder. According to Edmonds and Miles (1984) chronic delay in the payment of

contractors is a factor that could affect performance in a project. Delay in payment affects the contractor's cash flow and because of the need for cash, he might begin to work on other small projects in order to generate money. By so doing, he does not pay full attention to the main project and this can lead to performance failure. (Ugochukwu and Onyekwena, 2014)

2.3.7 Low Morale and Motivation of Craftsmen

Motivation is a means of encouraging people to do something. It is a way of getting things done willingly from others. If workers are not motivated to work, their morale will decrease and their performance would also decrease. According to Ibironke *et al.* (2011) implementing a well formulated motivation policy triggers the innate qualities of labourers by enhancing their productivity. Workers who are inadequately motivated become care free or even resentful of their work Ng *et al.* (2004) cited in Ibironke *et al.* (2011). Material unavailability can also demotivate workers.

2.3.8 Poor Communication

Poor communication skill in construction can be a major problem. Wasi *et al.* (2001) stated that in developing countries, communication between workers on site and the contractor's office is very limited. Therefore urgent site problems cannot be solved

immediately due to lack of communication between site workers and managers (Abdullah, Bilau, and Enebuma 2011).

3.0 Research Methodology

This study entails the process of examining and carrying out a survey on small-sized indigenous construction firms in Lagos towards assessing their current state so as to identify factors that affect their competencies. The descriptive survey method was adopted for this research and data were obtained by means of survey using questionnaires. The population studied in this research work are, Builders, Quantity Surveyors, Civil Engineers, Architects, and some other professionals in the building construction industry. Population characteristics include education level, nature of client organization, number of years in practice, place of work, source of funds for projects, professional qualifications and roles/duties performed in the firm. The population of this study were taken from small-sized indigenous construction firm located in Lagos state. The firms were picked from a list of indigenous construction firms obtained from the Lagos State Ministry of works. The major reason for choosing Lagos is the easy accessibility to the respondents. Therefore for this research, 30 indigenous construction firms were used as

case study and 60 questionnaires were given to these firms and 48 questionnaires were retrieved. The random sampling method was used to select individuals for the study. This is because the random sampling method is the most fundamental method of probability sampling. Its probability is applied in all probability sampling method (Asika, 2002).

Data was collected by means of questionnaires. The questionnaires were hand delivered to some small-sized indigenous firms and each firm was asked to complete two questionnaires. The questionnaires contained the factors identified and all the data required for the study were collected over a period of time and were self-administered. Primary and secondary data were used. Primary Data involves data

collected from respondents' responses to the questionnaires. Oral responses were also obtained where necessary. Secondary Data involves data collection from textbooks, journals, articles, reports from within and outside the Nigerian construction industry and internet. The data collected from the administered questionnaire were analysed using the Statistical Package for the Social Sciences (SPSS) for analysis.

4.0 Presentation of Data Analysis and Interpretation

4.1 Presentation of Data Analysis

A total of 60 questionnaires were administered and 48 responses were received, representing 80% effective response rate. The questionnaires were divided into section A, B and C.

4.2 Section A: Background Information of Respondents

Table 1: Personal characteristics of respondents

Personal characteristics of respondents	N	Percentage (%)
Individual	8	16.6
Corporate body	12	25.00
Partnership	28	58.33
Gender distribution		
Male	33	68.75
Female	15	31.25
Age of respondents		
20-30 years	7	14.58
31-40 years	15	31.25
41-50 years	18	37.50
51 years and above	9	18.75
Designation of the respondents		
Managing Director	7	14.58
Head of Department	18	37.5
Project Manager	11	22.91

Contracts Manager	9	18.75
Others	5	10.41
Academic qualification		
HND/B.Sc.	30	62.5
PGD	6	12.5
MSC/MBA/Ph.D.	10	20.83
OTHERS	2	4.17
Professional background		
Builders	11	22.91
Quantity surveyor	8	36.59
Architect	9	18.75
Civil engineer	20	41.67
Working experience		
1-10 years	15	31.25
11-20 years	21	43.75
21-30 years	7	14.58
31years and above	5	10.41

20(41.67%) Engineers make up the largest number of consultants in this research, followed by 11(22.91%).Builders, 9(18.75%) Architects and 8(16.67%), Quantity surveyors. 30(62.5%) of respondents have HND/B.Sc. qualifications, 6(12.5%) with PGD and 10(20.830%) with M.Sc./PhD qualifications, and 2(4.17%) with other qualifications 15(31.25%) of the respondents have served in their organization for less than ten years, 21(43.75% of the respondents have served in their organization between eleven and twenty years and 7(14.58%) between twenty one to thirty years respectively, while 5(10.41%) have served above thirty one years.

It is shown that most of the respondents possess a working experience ranging from eleven to twenty years. However those in the eleven to twenty years category are more with 43.75%,

those in the twenty one to thirty years category were 14.58%. It shows that the respondents are well experienced. Majority (47.91%) of the respondents have staff strength of less than twenty five staff with 35.42%, 28.9% have twenty six to fifty staff, 16.67% have fifty one to seventy five staff, and 0% have seventy six to hundred staff. 41.67% of the respondents get their funds from the bank, 37.5% from client, 14.58% get their funds through other means and only 2.6% get their funds from government.

4.3 Section B - Challenges affecting competencies and project delivery

The factors affecting performance was analysed by Frequency Index. The frequency index (F.I) was obtained by using the formula:

$$F.I = \frac{5(1) + 4(2) + 3(3) + 2(4) + 1}{5(1+2+3+4+5)}$$

The factors were ranked from the highest to the lowest based on the frequency index.

Where: 1 = Very Important

2 = Important

3 = Undecided,

4 = Fairly Important,

5 = Not Important

Table 2: Factors Affecting Performance

Factors Affecting Performance	Frequency				FI		Ranking
	5	4	3	2	1		
Poor managerial skills	27	13	5	3	0	0.87	1
Lack of project planning	28	11	5	4	0	0.86	2
Unavailability of funds	25	12	6	5	0	0.85	4
High cost of plants and equipment	28	10	6	2	2	0.84	3
Lack of Government patronage	19	16	7	5	1	0.8	5
Lack of motivation of labour	20	15	6	5	2	0.79	6
High cost of labour	15	18	9	6	0	0.78	7
High cost of materials	16	18	5	5	4	0.75	8
Lack of communication	13	18	8	5	4	0.73	9
Lack of skilled craftsmen	11	11	10	8	8	0.64	10

Table 2 shows that poor managerial skills (0.87) is the most ranked factor, lack of project planning (0.86), unavailability of funds (0.85), high cost of plants and equipment (0.84), lack of government patronage (0.8), lack of motivation of labour (0.79), high cost of labour (0.78), and high cost of materials (0.75) are

also important factors affecting the performance of small sized indigenous construction firms. The table also reveals lack of communication (0.73), lack of skilled craft men (0.64) as the least factors affecting the competencies of small sized indigenous firms in Lagos state

Table3. No of government projects tendered for by respondents and number of projects awarded.

Private Projects Tendered For	Frequency	Percentage (%)	Private Projects Awarded	Frequency	Percentage (%)
5-10	4	8.33	5-10	3	16.67
11-15	8	16.67	11-15	9	29.1
16-20	16	33.33	16-20	17	35.41

Above 20	20	41.67	Above 20	19	18.75
Total	48	100	Total	48	100

Table 4 shows that 8.33% of the respondents have tendered for five to ten private projects, 16.67% have tendered for eleven to fifteen private projects and 33.33% have tendered for sixteen to twenty private projects and 41.67% have tendered for over 20% .Interestingly, 16.67% of the respondents have been awarded between five to ten private projects 29.17%, have been awarded between ten to fifteen private projects, 35.41% have been awarded between sixteen to twenty government projects, and 18.75% have been awarded above

20 private projects. Compared to the number of government projects awarded, it can be seen here that a better percentage of respondents are awarded more private projects than government projects.

4.4 Section C- Strategies to improve performance of small sized indigenous construction firms.

Table 5 suggests the most effective ways of improving the performance of small sized indigenous construction firms.

Table 5 Strategies to improve performance of small sized indigenous firms

Strategies	Frequency			F.I		Ranking
	5	4	3	2	1	
The use of ICT would help improve performance by making work flow easier	28	15	5	0	0	0.89 1
Access to bank loans would help improve performance.	26	18	2	2	0	0.88 2
Sufficient Government patronage would improve performance	24	16	6	2	1	0.86 3
More machinery on site would improve performance.	22	15	6	4	1	0.84 4
Incentives for site operatives would improve performance of work by motivating employees performance	25	12	6	5	0	0.83 5

Experienced labour on site would

improve performance 22 13 8 4 2 0.83 6

Skilled personnel on site would

improve performance. 23 14 6 5 0 0.82 7

The five most effective ways of improving construction performance are: The use of ICT would help improve performance by making work flow easier (Ariel and Paul 2010, Navon, 2005).; Access to bank loans would help improve performance; Incentives for site operatives would improve performance of work by motivating employees performance to the best of their ability; Sufficient government patronage would improve performance The initiative to support the SMEs has mainly been the direct or indirect responsibility of governments as observed by Thwala and Mvubu (2008), in the success stories from countries such as Malaysia and Singapore.; More machinery on site would improve performance.

4.5 Discussions and Findings

Most of the respondents are of the opinion that poor managerial skills is the most important factor affecting performance in small sized indigenous firms in Lagos state. Project management techniques are not used and since there is no management in which the decisions are taken by forming strategies in a planned way, the firm will experience a lot

of problems. It is in agreement with Ugochukwu and Onyekwena (2014) which stated that challenges facing indigenous contractors low awareness of the need for working capital management, one-man business setbacks, under-capitalization, poor funding and cash flow problems, high cost of construction finance, economic recession, reckless spending and diversion of funds, poor project planning and control. Lack of project planning was ranked second. This is very understandable because of the complex nature of resources, processes, activities and parties that are involved in construction. Kulemeka et al (2011) in their study of safety critical incidents among small building contractors observed that small building contractors tend to inherit the problems that were not resolved in the earlier construction planning stages. Project planning helps in the completion of assigned amount of work within a fixed time. Unavailability of funds, Laryea (2010) studied the current challenges and opportunities facing building contractors in Ghana. The findings indicated that significant challenges relating mainly to

financing for projects and a harsh business environment High cost of plants and equipment, all ranked as third most important factor affecting performance in small sized indigenous construction firms. High cost of labour can be caused by inflation. In recent times, Nigerian Government patronise foreign companies more than their indigenous counterparts leaving their own contactors starved of work, inexperienced and therefore are unable to compete with their foreign counterparts. According to Saleh (2008), increase in government patronage and sufficient commitment of Government to policies that would promote indigenous contractors, would increase competence and boost experience of indigenous contractors.

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5.0 Conclusion and Recommendation

Poor managerial skills make it impossible to manage workers, materials, resources and the whole construction project successfully. Consequently, better management and project planning would go a long way in improving performance of small sized construction firms. The use of ICT would help improve performance by making work flow easier; Access to bank loans would help improve performance; Incentives for site operatives would improve performance of work by motivating employees performance to the best of their ability; Sufficient government patronage would improve performance; More machinery on site would improve performance.

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