

Entrepreneurial Opportunities in the Production of Building Materials

Adedeji Afolabi[1*] Opeyemi Oyeyipo[2] Rapheal Ojelabi[1] Ijeoma Emeghe[3]
1.Department of Building Technology, Covenant University, Km 10, Idiroko road, Ota, Ogun State, Nigeria
2.Department of Quantity Surveying, Bells University of Technology, Km 8, Idiroko road, Ota, Ogun State, Nigeria
3.Department of Estate Management, Covenant University, Km 10, Idiroko road, Ota, Ogun State, Nigeria

Abstract
An aspect of an operational nation building would be a country that has a sustainable construction industry whereby it is self-sufficient in the production of its building materials, but that is not the case. The aim of this study was to assess the entrepreneurial opportunities in the production of Building materials. A literature review approach and desk study using secondary data of net income (Profit after tax) during the period 2010 – 2014 of eight (8) building materials companies, publicly listed on the Nigerian Stock Exchange (NSE) were used for the study. From the study, it is evident that there are entrepreneurial prospects in the Housing and infrastructural needs, Maintenance and repairs, need for quality building materials to avoid Building collapse. These entrepreneurial opportunities gives room for huge production of Building materials such as cement, paint, tiles and steel reinforcement. In conclusion, there is a dire need for investment in the production of building materials locally rather than the heavy reliance on importation. In this exasperating times when oil prices have dwindled, the study calls for diversification to other sector. It was recommended that internally and international short term loan acquisition schemes supported by the federal government should be made available to entrepreneurs in production of building materials. Allied facilities such as improved power sector and material protection policy on imported building materials should be fast tracked.
Keywords: building, entrepreneur, opportunities, production, materials

1. Background to the Study

Nigeria is endowed with the population, weather, abundant solid and natural resources. The discovery of oil in Nigeria in 1966 has led to the abandonment of other sectors. With 90% of Nigeria's revenue been generated in the oil and gas sector, agriculture which was very vibrant has taken back stage. Credit scheme and micro financing option have been introduced by the Federal government and the Central Bank of Nigeria in order to resuscitate the glory of the sector due to its ability to provide massive employment (Gbandi and Amissah, 2014). But, the nation is still heavily reliant on food importation. Researchers believed that the neglect of other sectors has resulted in the socio – economic challenges confronting the nation (Ogen, 2007; Ucha, 2010; Adesina, 2013). Unemployment has been the motive for the continued drive to push for entrepreneurship. Kakwagh and Ikwuba (2010); Olokundun, Falola and Ibidunni (2014) noted that unemployment has been the most socio – economic challenge gripping the nation. Ebiringa (2012) identified with the abundant entrepreneurial opportunities Nigeria has to offer, but decried the inapt economic policies that have been implemented under diverse governments. The failure of the policies have engendered small and medium scale (SMEs) to become dependent on distributing imported produce rather than harnessing indigenous resources and indigenous made produce.

There have been a lot of studies on the entrepreneurial opportunities that exist in the agricultural sector in Nigeria (Akinbami et al., 2012; Babagana, 2012; Nwibo and Okorie, 2013) or the characteristics of the entrepreneur in the real estate sector (Jaafar et al., 2014) but less has been done as such in the building and construction industry. There are untapped entrepreneurial opportunities in the construction sector that can result in economic growth (United Republic of Tanzania, 2005; International Labour Organisation (ILO), 2007). A sector, according to the National Bureau of Statistics (2015) estimating a yearly contribution of 3 percent on average by the building and construction sector to the real GDP of the nation. One of the principal factors contributing to the building and construction sector are building materials (Abiola, 2000). This is largely because building materials accounts for about half of the total cost of most or any construction products (Kern, 2004; Okereke, 2003). Whereas, most of the building and construction materials in use in the sector are largely imported as opposed to using locally manufactured resources and promoting local content (NBS, 2015). Oluwakiyesi (2011) noted that a substantial amount of the materials imported are substandard. Table 1 shows the total intermediate input of some selected building materials to the construction sector between 2010 and 2012. Table 1 reveals that there was an increase of 14% in the contribution of the selected materials from 2010 to 2011, while it increased by 22% from 2011 to 2012. The enormous contribution of producing building and construction materials locally cannot be over emphasized.

Table 1. Intermediate input for Construction sector (=N=, Billion)

	Year		
	2010	2011	2012
Construction materials			
Cement	154.412	178.458	231.398
Blocks	65.801	61.348	53.267
Metal/Iron bars	596.313	706.412	778.632
Sand	519.012	651.362	700.294
Stone	94.522	194.504	244.648
Wood	308.416	368.659	416.316
Electric wires	43.928	53.688	61.846
Gravel	192.980	66.153	311.333
Roofing sheets	19.353	3.250	2.319
Total (=N= Billion)	1,994.737	2,283.834	2,800.053

Source: National Bureau of Statistics (2015)

According to Akinmoladun and Oluwoye (2007), the prices of imported building materials and components have increased astronomically from the 80's till date. It is therefore imperative to assess the entrepreneurial opportunities in the production of building materials locally in order to have a sustainable construction environment. Chan et al. (2005); Thangaraj and Chan (2012) asserted that it is generally an accepted practice to assess company performance using financial ratios – the analysis of these ratios over a period of time may provide substantial and reliable information on a company's financial health. Previous studies from Chan et al. (2005); Abdul-Rasheed and Tajudeen (2006); Chen (2009); Balatbat et al. (2011); Thangaraj and Chan (2012) have been carried out using financial performances of construction companies. Thangaraj and Chan (2012) analyzed the financial analysis of forty three (43) publicly listed and large private companies in the building and construction supply chain period of the global financial crisis (GFC) from 2005 to 2010. Balatbat et al. (2011) reported the performance of thirty (30) Australian Securities Exchange (ASX) listed construction firms operating in civil infrastructure, residential and non-residential sectors over a 10 year period. The study will cover the prospects and opportunities in the entrepreneurial processes of producing building materials using the financial performance of some building and construction materials company listed on the Nigerian Stock Exchange (NSE).

1.1 The Nigerian Construction industry

The Nigerian construction industry is concerned providing necessary housing and infrastructural growth towards the attainment of the nation's sustainable development. Despite its importance, it has failed to drive the economy, even with the housing and infrastructural deficit (Oluwakiyesi, 2011). The industry which started in the early 1940s has continually experienced growth. A growth largely contributed by the oil exploration in the country. The National Bureau of Statistics (2015) reported that the Nigerian construction industry averages over 18 percent growth rate, contributing an average of 3 percent yearly (over $10 Billion) to the real GDP of the nation. Oluwakiyesi (2011) noted that the construction sector's GDP has grown to 125 times its size compared to its size in 1981. Agwu (2012) noted that the sector is also growing in complexity. Successive governments, realizing the importance of construction have embarked on different capital projects to enhance the infrastructural base.

The Nigerian construction industry is still largely dominated by foreign companies (Oluwakiyesi, 2011; NBS, 2015). Not in numbers but in the magnitude of projects and funds they control. The building and construction sector has its fair share on the Nigerian stock exchange (NSE) with 4 to 6 building and civil engineering companies trading stocks daily on the floor of the NSE. Although, there are other emerging indigenous construction firms. The Nigerian public construction projects has seen a fair share been controlled by foreign companies. One of such is Julius Berger Nigeria Plc. Figure 1 shows the net income (Profit after tax) of Julius Berger Nigeria Plc. Figure 1 reveals that Julius Berger Nigeria Plc experienced a 58% increase in its Profit after tax (PAT) from 2010 to 2011 and an 80% increase from 2011 to 2012. The company experienced a decline by 1% from 2012 to 2013 but the Profit after tax picked up with a 5% increase from 2013 to 2014. According to Oluwakiyesi (2011) Julius Berger Nigeria Plc is the most profitable construction company in Nigeria.

Figure 1: Net Income (Profit after tax) of Julius Berger Nigeria Plc (in =N=' millions)
Source: Bloomberg (2015)

Oluwakiyesi (2011) explained that a major militating factor to significant growth in construction activities in Nigeria has historically been the local shortage of building materials, especially cement and steel. This is supported by Opara (2011) noting that the Nigerian construction market suffers from shortage of affordable building and construction material due to its over-dependence on imported building materials.

1.2 Entrepreneurship in Nigeria

The participation of government and the entrepreneur can be likened to a marriage to foster economic development. Both couples cannot be mutually exclusive or independent. Akinbami et al. (2012) stated that entrepreneurial growth in Nigeria has been negatively affected by poor and inadequate infrastructural facilities such as roads, electricity and supply of pipe-borne water. According to Ebiringa (2012) the post Nigerian civil war prompted the participation of the Nigerian government. Policies enacted to support the new entrepreneurial drives include the establishment of the National Directorate of Employment (NDE), National Open Apprenticeship Scheme (NOAS) and, the Small and Medium Enterprise Development Association of Nigeria (SMEDAN). Also, the Federal government through the Nigerian University Commission realized the need to infuse entrepreneurship into the curricula through the introduction of entrepreneurial studies course (Ebiringa, 2012; Akpan and Etor, 2013).

The Federal government has been able to drive the entrepreneurial spirit through the small and medium scale enterprises. As noted by the Central Bank of Nigeria (CBN) (2001) small and medium scale enterprises (SMEs) possess great capability in solving many of the nation's challenges by promoting local content. Ayozie (2011) explained that most big corporations stated in such light. Gbandi and Amissah (2012) stated that 90% SMEs in Nigeria are manufacturing/industrial sector related, contributing only 1% to the economy. This shows that the SME model for the country has not been judiciously harnessed. In a report by the World Bank 39% of small scale firms and 37% of medium scale firms asserted the inability to access required funds. This has resulted in the demise of such SMEs (Ayozie, 2011; Gbandi and Amissah, 2012). The Central Bank, in its part established the Small and Medium Enterprises Credit Guarantee Scheme (SMECGS) to provide guarantee for credit from banks to SMEs and manufacturers. The Banks on their part have an instrument; the Small and Medium Industries Equity Investment Scheme (SMIESIS) that aims to assist SMEs. Other government agencies have helped in trying to assist SMEs and entrepreneurs. Ebiringa (2012) commended the activities of the Standard Organization of Nigeria (SON) and the Raw Material Development Council of Nigeria in ascertaining quality of products produced by SMEs. The entrepreneurship activities in the country has been able to penetrate agricultural/agro-allied sector, solid mineral mining, power, telecommunication, tourism, oil and gas business, environmental and waste management business, banking sector, engineering and fabrication work and the building and construction sector (Agbeze, 2012; Anyadike et al., 2012; Ebiringa, 2012). There is need for the government to hands up on these sectors to entrepreneurs; the risk takers (Li, 2012). The government can function mainly with an institutional framework to monitor and control activities and providing start up capitals, where necessary.

2. Prospects for entrepreneurial opportunities in the production of building materials

Essentially, entrepreneurial opportunities in the production of building materials are created by the needs in the Nigerian system. These prospects are the guarantee that engaging a production system for building materials would be profitable. Entrepreneurial opportunities and construction demands are among the factors identified as entry location and entry timing essential for market expansion in foreign markets such as Nigeria (Abdul-Aziz and Wong, 2010; Mat Isa et al., 2014). The nation as endowed as it is, has its own peculiar challenges. These

challenges can be converted to fulfilling the needs of vibrant entrepreneurs, foreign markets and the nation.

2.1 Housing and infrastructural needs

Housing needs are the primary goal of every man. Crawford (2011) defined housing function beyond providing shelter but included the ability to support the social functions of mankind. Kabir and Bustani (2008) identified with the critical economic structures present in provision of housing for nations. Also, Ademiluyi and Raji (2008) aligned its provision to attainment of living standard and crucial impact on the environment. Rusch and Best (2014) noted that housing procurement is not static because it is subject to several factor. In Nigeria, several housing schemes have evolved over the years; embarked upon by successive governments and private corporations at various levels, in an attempt to provide shelter for its citizens; yet housing problems have become persistent. Ademiluyi and Raji (2008) reported on the poor quality of available housing units in the urban centres, which has resulted in overcrowding in houses and increased burden on existing infrastructure. In the 70s, the occupancy rate of the available housing stock was an average of 28.8 persons per building, but in a decades time it had increased to 30 persons per building. It was further estimated that only 2% of the existing population are accommodated in self-contained buildings with 98% living in "rooming" type of houses (Adebamowo, 2011).

The inadequacy of decent housing has resulted in the emergence of 42 slum areas in 1985 and over 100 in 2006 (Ilesanmi, 2010). Oduwaye (2009) noted that it poses a major planning problem on the provision of necessary infrastructure. Presently, the nation's current housing deficit is estimated as 17million units with a housing projection of about 40,000 units yearly which is estimated at $1billion annually (Adebamowo, 2011). Akinmoladun and Oluwoye (2007) attributed the increasing housing deficit to the exponential population growth rate in the city. The housing deficit puts pressure on the available infrastructure. Challenges such as poor government policies, poor budget implementation and lack of accountability have plagued the adequate provision of infrastructure to the citizenry. Oluwakiyesi (2011) estimated that only 30% of Nigeria's road network is paved, a comparison to (70%) frontier and (58%) emerging markets. This reveals the large gap that needs to be accomplished by esteemed entrepreneurs. Musa, Amirudin, Sofield, and Musa (2015) observed that these statistics are alarming as they suggest that national governments, especially in developing countries, must put greater effort into providing additional housing for their increasing populations.

2.2 Maintenance and Repairs

Investment in housing and infrastructure is one thing, maintenance is another. Ishak et al. (2007) noted that the high demand for housing in developing countries is having unfavorable consequences on sustainability and is worsening the condition of existing buildings. Lam, Chan and Chan (2010) defined maintenance in terms of keeping or restoring a facility to an acceptable standard. But, are the quality of Nigeria's housing stock acceptable? Although, Iyagba (2005) argued the impossibility of producing maintenance-free buildings due to the deterioration that occurs over time on the building materials utilized. Nawi et al. (2014) emphasized that maintenance focuses on reducing the occurrence of failures that ensures the facility is able to meet project requirements. Suwaibatul et al. (2012) stated that maintenance goes beyond keeping or restoring a facility but minimizing maintenance costs and ensuring safety of building occupants and environment. Au-Yong et al. (2014) explained that building maintenance costs are increasing rapidly. As demands for rebuilding and repair increase in the aftermath of natural, human-caused, and technologically induced disasters, construction work will continue to be a relatively higher-growth sector compared to other industry sectors (Nussbaum, Smith-Jackson, and Kleiner, 2011). Maintenance and repairs is a haven for entrepreneurs to maximize the production of quality building materials that would cater for the sector.

2.3 Use of sub-standard building materials

Oyedele and Tham (2005) identified the use of substandard materials and building collapse has one of the major challenges facing the Nigerian construction industry. According to Olusola and Akintayo (2009); Fagbenle and Olawunmi (2010) the rate of failure of building components in Nigeria is a cause for concern and as such demands urgent attention. Iyagba (2005) opined that there are many unreported cases of building collapse. In 35 percent of the reported cases of building collapse in Nigeria between 1974 – 2010, Windapo and Rotimi (2012) revealed that no fewer than six lives were lost. Building failure occurs when there is a defect in one or more elements of the building caused by inability of the building material to perform its original function effectively, which may finally lead to building collapse (Oke, 2011). Whereas, collapse is an extreme state of failure (Dimuna, 2010). It is quite unimaginable that a county blessed with so great potentials in its construction industry can experience such magnitude of building collapse. The link between building collapse and the materials used cannot be far-fetched (Oluwakiyesi, 2011). It is essential that agencies in charge of monitoring quality of building materials in use need to improve. The issues of sub-standard materials are avenues for entrepreneurs to step in and produce quality building materials that stand necessary quality test. Rather than depending on imported products, quality of local building materials can be monitored and controlled right from

production.

3. Entrepreneurial Opportunities in Production of Building materials

3.1 Cement production

Limestone; a major raw material in the construction industry occurs in large quantities in different parts of Nigeria (Ehinola et al., 2012; Morgan Capital Research, 2014) with cement factories located near the raw materials. Presently, Dangote Cement companies has factories in Ogun, Kogi and Benue state, Cement Company of North Nigeria Plc having its factory in Sokoto, Lafarge WAPCO Cement Pc in Ogun State, Ashaka Cement in Gombe and BUA Cement factory in Edo State. The country which was largely dependent on importation of bulk cement has suddenly gotten it right. Oluwakiyesi (2011) reported that local cement production output increased significantly with cement imports dropping by 42% of total consumption between 2005 - 2010. This was brought about by ample government policies that harnessed the capacities of the cement entrepreneurs in the country. Policies such as the granting of import license to only those with local production capacity to import the shortage in the local consumption and the final suspension of such licenses in 2012. Ibhuagui (2014) stated that these protective government policies have engendered huge investments in the industry by domestic and foreign players, growing demand, favourable macroeconomic factors and benign economic growth. Oluwakiyesi (2011) noted that self-sufficiency in cement production is a major step for construction boom. With the present figures and the increased capacities by major local cement production firms, Nigeria is self-sufficient in cement production. Figure 2 showed the net income (PAT) of Dangote Cement Plc. Figure 2 reveals that the company made a 15% increase in its Profit after tax from 2010 to 2011 and a 25% better in 2011 to 2012. Dangote Cement Plc from 2012 to 2013 gained a 33% increase in its Profit after tax but experienced a decline of 20% from 2013 to 2014. The Profit after tax of Dangote Cement Plc shows it is the most profitable cement company in Nigeria.

Figure 2: Net Income (Profit after tax) of Dangote Cement Plc (in =N=' millions)
Source: Bloomberg (2015)

Ibhuagui (2014) reported that production capacities stand at 28.95MT in 2013, a move from 3.28MT in 1999. Nigeria can now earn export income from cement. In 2012, Nigeria exceeded South Africa to become Sub-Saharan Africa's largest cement producer, second largest cement producer in Africa - behind Egypt - and fourth largest cement producer in the broader Middle East and Africa - behind Egypt, Saudi Arabia and Iran in that order (Ibhuagui, 2014).

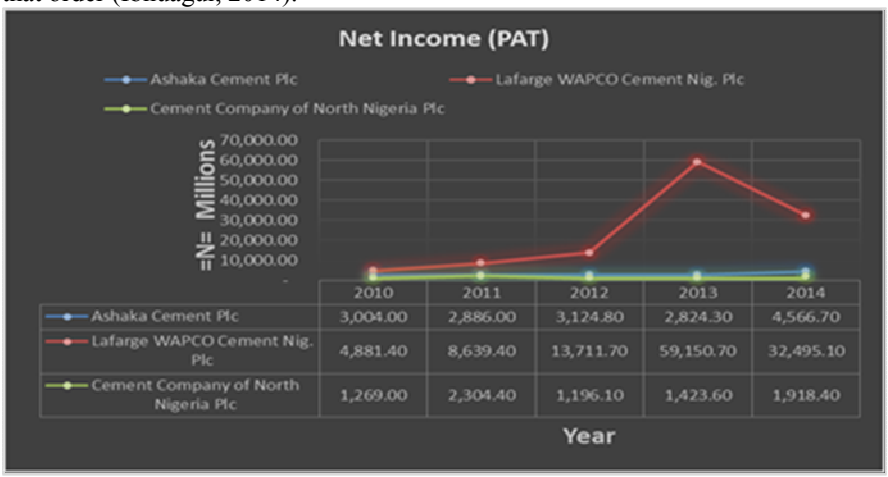

Figure 3: Net Income (Profit after tax) of Ashaka, Lafarge and CCNN (in =N='millions)
Source: Bloomberg (2015)

Figure 3 showed the net income (Profit after tax) of three (3) other major cement companies namely Ashaka cement, Lafarge WAPCO Nig. Plc and Cement Company of North Nigeria Plc. The figure reveals that Ashaka Cement experienced a decline of 4% from 2010 to 2011, while it experienced an 8% increase in its Profit after tax in the following year; 2012. Ashaka cement Plc had another decline of 9.6% from 2012 to 2013 financial year but recovered with an increase of 62% from 2013 to 2014. Lafarge WAPCO Cement Nigeria Plc achieved a Profit after tax increase of 77% from 2010 to 2011. It experienced another increase of 59% PAT from 2011 to 2012. A superlative financial year was experienced by Lafarge WAPCO Cement Nigeria Plc from 2012 to 2013 with 331% increase in its PAT, but a 45% decline from 2013 to 2014. On the other hand, Cement Company of North Nigeria Plc based in the North Western region of Nigeria experienced an 82% increase in its PAT from 2010 to 2011, while it experienced a decline of 48% from 2011 to 2012. The companies experienced a slight increase of 19% in its Profit after tax from 2012 to 2013 and also increase in PAT from 2013 to 2014 with a 35% increase. There are still exceeding opportunities that exist in development of local production capacities. The element of housing needs for increasing middle class group, internally displaced persons in the North east, infrastructural deficit and Vision NV:2020; a transformation agenda of the Federal government raises hope in the Nigerian cement sector.

3.2 Paint production

The purpose of paint has been described to preserve, protect and decorate surfaces, which enables them to be cleaned easily. The present Nigerian chemical and paints industry has been in existence for a number of years. Lead Capital (2008) noted that the Nigerian paint sector is a highly competitive one with over 1,000 operators. Yet the demand for paints has still not been met. Evidence is the large number of unpainted houses in the rural area and some in the urban centres. Figure 4 showed the net income (PAT) of some paint companies in Nigeria. The figure reveals that Berger Paints Nigeria Plc had a Profit after tax decline of 49% from 2010 to 2011, declining further by 15% from 2011 to 2012. The company recovered with a Profit after tax increase of 34% from 2012 to 2013 but a further decline of 42% from 2013 to 2014. CAP Plc on the other hand experienced a Profit after tax increase of 19% from 2010 to 2011, an increase of 6% from 2011 to 2012, an increase of 27% from 2012 to 2013 and an increase in PAT of 17% from 2013 to 2014. Paintings and Coatings Manufacturers Ltd experienced a 117% increase from 2011 to 2012 in Profit after tax. The company also experienced an increase of 8% from 2012 to 2013 and a decline of 29% from 2013 to 2014. Portland Paints and Products Nigeria had a Profit after tax increase of 32% from 2010 to 2011 but experienced a sharp decline of 231% from 2011 to 2012 financial year. The following financial year from 2012 to 2013 saw an improvement of 147% increase in its Profit after tax and another increase of 38% from 2013 to 2014.

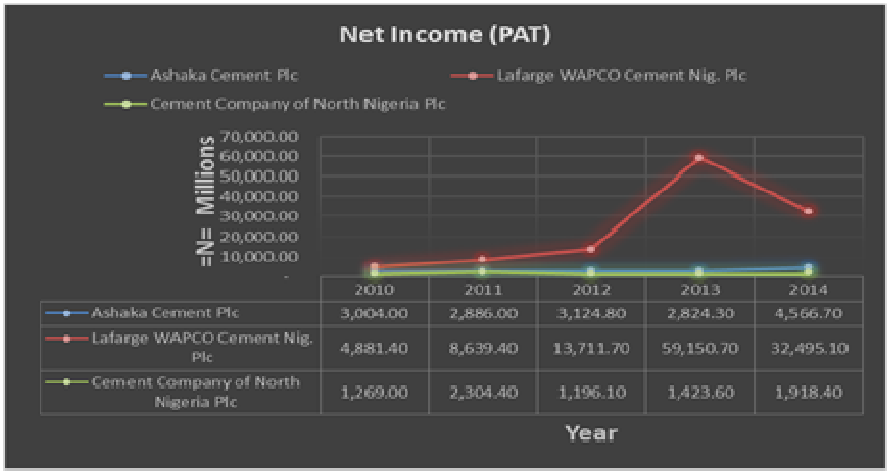

Figure 4: Net Income (Profit after Tax) of some Paint production companies (in =N='millions)
Source: Bloomberg (2015)

In the Nigerian paint sector, there is free entry due to the relatively low operating cost and exit due to the rather 'friendly capital required' to set up a business. Many new entrants get attracted to paint making business due primarily to inefficient regulatory practices as well as the attractive capital requirement. This has inevitably led to the lowering of standards as most of the fringe players produce sub-standard paints, albeit at relatively cheaper cost which enables them to sell at a lower price. Major critical success factors identified by Lead Capital (2008) include quality, capital and distribution. When entrepreneurs aiming to go into this sector have these cut out for their companies. In spite of the stiff competition, success would be guaranteed.

3.3 Tiles production

High class and fashion has been the viewpoint of the Nigerian society. One way the Nigerian people show it is

through buildings and their environment. As early as the 80s, Akinde et al. (2013) stated that tiling with glazed tiles was only done for the rich and put in specific places (wall finishes) as against the popular trend nowadays of floor finishes. Majority of Nigeria's imported tiles are imported from Europe and South America. Lately, Akinde et al. (2013) informed that the Nigerian construction market is flooded with China glazed tiles, which are accorded to be inferior. Although, some quarters have hailed the import of China ceramic products due to its availability and affordability. Oaikhinan (2014) in Idowu (2014) estimated the import value of ceramics tiles in 2013 at over $600million placing Nigeria as the Ninth importer of ceramic tiles. The imported tiles represent 80% of the total tile consumption in Nigeria (Idowu, 2014). Tile production in Nigeria can be traced to early 40s with the emergence of Ikorodu Ceramic plant in 1948 (Akinde et al., 2013). Due to the abundance of clay material in Nigeria, many of the companies that emerged focused on terracotta tiles. Akinde et al. (2013) aligned the emergence of production of local glazed tiles to the sudden upsurge in demand for glazed tiles in the country. Table 6 shows the spread of raw materials in different part of Nigeria. The tides have changed from the use of carpets, rubber tiles and rugs.

Table 2. Sources of Building raw materials in Nigeria

Type of Material	States predominately found
Granite	Plateau, Ondo, Ado Ekiti, Bauchi, Abia and Ebonyi
Limestone	Anambra, Cross Rivers, Benue, Imo, and Bendel
Marble	Kwara, Bendel, Benue, Plateau and Kaduna
Laterite	All States
Clay	Cross Rivers, Ondo, Oyo, Sokoto, Gombe, Kano, Niger, Imo and Anambra.
Natural fibre	All States
Bamboo	Eastern Nigeria
Timber	Eastern and Western Nigeria

Source: Okereke (2003)

The high demand resulted in the establishment of major tile production companies in the country. But, their production is still infinitesimally low to the tile consumption of the Nigerian construction industry. Akinde et al. (2013) stated that the world's largest producer of tiles records an annual turnover of one billion dollars. Chigbo (2009); Abiodun, Akintonde and Akinde (2013) suggested a public/private partnership in the establishment of more local tile firms in order to meet the pressing demand and thereby, cut importation. This is supported by Akinde et al. (2013) noting that establishment of more local tile producing factories by entrepreneurs through government invention would lead to increased foreign earnings, boost national currency, reduce external debt and ultimately create employment.

3.4 Steel Reinforcement production

The Nigerian Steel Industry emanated in the late 50s with United Nations Industrial Development Organization (UNIDO) survey identifying Nigeria as a potential steel market. Investigations into the local raw materials led to the discovery of the Agbaja, Itakpe and Udi iron ore deposit as shown in Table 3.

The combination of the iron ore under high temperature with limestone, coal and power produces the Steel (Ohimain, 2013).

Table 3: Iron Ore Proven Reserves in Nigeria

Location	% iron content	Reserves (Million tonnes)
Agbaja	45-54	2000
Itakpe	36	200
Ajabanoko	35.61	62.5
Chokochoko	37.43	70
Agbade-Okudu	37.43	70
Nsude Hills	37.43	60
Total		2462.5

Source: Adebimpe and Akande (2011)

According to Mohammed (2002) the Nigerian steel sector boasts of public and private steel companies comprising 13 rolling mills, 7 mini mills and 2 integrated steel companies. Ohimain (2013) explained that the sector is in a state of near collapse with the domestic production not been able to meet the nation's steel consumption demand. According to the African Iron and Steel Association, Nigeria's annual steel consumption demand is estimated at 12 million tonnes per annum (Oluwakiyesi, 2011). Mohammed (2002) attributed the retarded state of the sector to government's inconsistent monetary and financial policies in spite of the abundance of iron ore, coal and limestone as shown in Table 2.

In order to achieve sustainability and industrialization, Mohammed (2002); Ohimain (2013) argued that there is the need to have a well-developed iron and steel industry that produces critical industrial raw

materials. The initial developmental funds, in view of the high capital costs and the long gestation period of such projects require high government participation before handing over to entrepreneurs. Mohammed (2002) opined that the start-up of such facilities in the hands of government can then lead to privatization, allowing the government to move on to other strategic areas of development. Presently, the private sector steel making facilities available in Nigeria are largely complementary ferrous scrap based plants (mini mills) producing a rolling capacity of 580,000 tonnes. The employment implication in this industry cannot be over emphasized. For example, the Ajaokuta Steel project, has the potential of providing employment of 10,000 workers in the Plant; employment of not less than 20,000 Nigerians in the raw materials industries providing feed-stock to the plant and employment of not less than another 30,000 Nigerians in the industries that use the products of the plant. The call for entrepreneurs in the steel production sector is emphasized with Mohammed (2002) noting that the Private Steel Mini and Rolling mill operates a little more efficiently than the public ones but are far from meeting the installed capacities of the mills. Table 3 shows steel companies in Nigeria. It is worth noting that Nigerian steel companies do not produce crude steel but produce steel bars and sections from scrap metals (Ohimian, 2013).

Table 4. Steel Companies in Nigeria

Types of mills	**Plant location**	**Rolling capacity (tons per year)**	**Products**
Integrated mills (2)	Ajaokuta Steel Company Ltd. Ajaokuta	540,000	Bars, rods, light sections
	Delta Steel Company, Ovwian/Aladja	320,000	Bars, rods, sections
Rolling mills (13)	Alliance Steel Company, Ibadan	20,000	Bars
	Alliance Steel Company, Onitsha	20,000	Bars
	Asiastic Manarin Industries, Ikeja	60,000	Bars, sections
	Jos Steel Rolling Company, Jos	210,000	Bars, rods
	Kastina Steel Rolling Company Kastina	210,000	Bars, rods
	Kwara Commercial, Metal and Chemical Industries, Ilorin	40,000	Bars
	Mayor Eng. Company, Ikorodu	220,000	Bars, sections
	Metcombe Steel Company, Owerri	10,000	Bars, sections
	Oshogbo Steel Company, Oshogbo	210,000	Bars; rods
	Qua Steel Products, Eket	600,000	Bars, sections
	Selsa Metal, Otta	100,000	Bars
	Union Steel Company, Ilorin	20,000	Bars
	Baoyao Futurelex, Abuja	20,000	Bars
Mini mills (7)	Federated Steel Industry, Otta	140,000	Bars, sections
	General Steel mill, Asaba	50,000	Bars
	Universal Steel Company, Ikeja	80,000	Bars, sections
	Nigerian Spanish Eng. Company, Kano	100,000	Bars
	Niger steel Company, Enugu	40,000	Bars, sections
	Continental Iron and Steel Company, Ikeja	150,000	Bars, sections
	Kew Metal Industries, Ikorodu	20,000	Bars, sections
Total		3,180,000	

Source: **Mohammed (2002); Ohimian (2013)**

4. Conclusion and Recommendation

The study engendered the possibilities of producing some common building materials in the Nigerian built environment through a positive drive at increasing the entrepreneurial spirit. These possibilities are created by the needs such as housing and infrastructural deficit, putrefying available infrastructure, high spate of building collapse caused by use of sub-standard imported materials. Also, the entrepreneurial opportunities that exist in the production of cement, ceramic tiles, paint and steel reinforcement were considered, hinged on the availability of natural resources and profitability based on the net income that exist in some selected building materials production companies listed on the stock exchange. It is worthy to note that apart from cement, where the country has become self-sufficient, most of other materials are imported. It is therefore recommended that Nigeria, a nation blessed with abundance of 35-40% purity in iron ore, limestone and other raw materials needed for the development of a vibrant iron and steel sector, should consider the participation of the Federal government and the organized private sector through privatization of all State owned steel manufacturing factories (especially Ajaokuta steel projects). There is no amount of investment and/or risk a nation puts in the steel projects to operate at full potential, especially its effect on entrepreneurial opportunities and economic

growth in the long run. Small-scale entrepreneurs are usually handicapped by high interest rate and lack of access to improved technology. The government can support the local market by ensuring that public construction projects are carried out with such locally manufactured building materials and also ensure governments establish a technical support service and by finding ways to meet their needs for short-term credit, particularly working capital. Allied facilities such as improved power sector should be provided and the policy on material protection of imported building materials should be enacted.

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