

CERAMICS INDUSTRIES AS A VIABLE TOOL FOR ENTREPRENEURSHIP DEVELOPMENT IN NIGERIA

OKONKWO, IVAN EMEKA (PhD)

DEPARTMENT OF FINE AND APPLIED ARTS NNAMDI AZIKIWE UNIVERSITY AWKA. P.M.B 5025, ANAMBRA STATE. NIGERIA

> Phone: 08035430893, 08174048668 Email: <u>ivancollections@yahoo.com</u>

Abstract

This study sought to examine ceramics industries as a viable tool for entrepreneurship development in Nigeria. Three research questions and three hypotheses were generated to guide the study. The sample for the study was 600 entrepreneurs selected from Awka, the capital of Anambra State through a stratified random sampling technique. Questionnaire was used as instrument for data collection. The research questions were analyzed using mean scores and standard deviation. The null hypotheses were tested at 0.05 level of significance using t-test. The findings of the study showed that entrepreneurship development in Nigeria is needed to stimulate economic growth, employment generation, empowerment of jobless Nigerians, mobilization of domestic savings and utilization of local resources. It revealed that challenges of entrepreneurship development in Nigeria are lack of infrastructural facilities, lack of credit facilities, corruption of Nigerian leaders and multiple taxation. The findings of the study also revealed that ceramics industries can enhance entrepreneurship development in Nigeria by empowering people to develop their capacities, increase assets of people, creating employment for people and elimination of poverty in Nigeria. The findings of this study were followed by a conclusion. The study recommended that government (policy makers) should genuinely recognize the essence of entrepreneurship to economic development in Nigeria and all legal and administrative constraints inhibiting the promotion and development of ceramics industries in Nigeria should be removed.

Keywords: ceramics, ceramics industries, development, entrepreneurship, entrepreneurship development.

Introduction

The term 'ceramics' is derived from the Greek 'keramos' meaning 'burned earth' and is used to describe materials of the pottery industry. A ceramic is an inorganic compound, non-metallic, solid material comprising metal, non-metal or metalloid atoms primarily held in ionic and covalent bonds (Kohser, 2012). The crystallinity of ceramic materials ranges from highly



oriented to semi-crystalline, vitrified, and often completely amorphous (e.g., glasses). Most often, fired ceramics are either vitrified or semi-vitrified as is the case with earthenware, stoneware, and porcelain. Carter (2014) disclosed that the earliest ceramics made by humans were pottery objects (i.e. *pots* or *vessels*) or figurines made from clay, either by itself or mixed with other materials like silica, hardened, sintered, in fire. Later ceramics were glazed and fired to create smooth, colored surfaces, decreasing porosity through the use of glassy, amorphous ceramic coatings on top of the crystalline ceramic substrates. Geiger (2011) affirmed that ceramics now include domestic, industrial and building products, as well as a wide range of ceramic art.

Generally, the term 'ceramics' (ceramic products) is used for inorganic materials (with possibly some organic content), made up of non-metallic compounds and made permanent by a firing process. In addition to clay based materials, today ceramics include a multitude of products with a small fraction of clay or none at all. Burakov (2010) asserted that ceramics can be glazed or unglazed, porous or vitrified. Firing of ceramic bodies induces time-temperature transformation of the constituent minerals, usually into a mixture of new minerals and glassy phases. Characteristic properties of ceramic products include high strength, wear resistance, long service life, chemical inertness and nontoxicity, resistance to heat and fire, (usually) electrical resistance and sometimes also a specific porosity.

Going beyond the hellenic word *keramos* ("fired soil"), on the one hand, *ceramics* is regarded as a name for products made out of non-metallic inorganic substances, and on the other hand, ceramics is reharded as the art and science of making materials and products of non-metallic inorganic substances (Liddell, 2015). Naturally, following the standards of modern physics and modern chemistry, one can associate the notion *non-metallic* with non-metallic energy band structures and their dependence on further constraints such as temperature and pressure, and one can associate the notion *inorganic* with substances not showing the chemical structures of hydrocarbons (Esnad, 2011). Ceramics are classified as inorganic and nonmetallic materials that are essential to our daily lifestyle. However, ceramics industries design the processes in which these products can be made, create new types of ceramic products, and find different uses for ceramic products in everyday life.

Ceramics industries are manufacturing firms which deal with the production of ceramics wares for use or sale using labour and machines, tools and chemical processing or formulation. Casmir (2016) described ceramics industries as a range of human activity, from handicraft to high tech, but is most commonly applied to ceramics production, in which fired soil are transformed into finished products on a large scale. Such finished goods may be sold to other manufacturers for the production of other, more complex products, such as aircraft, household appliances, sports equipment or automobiles, or sold to wholesalers, who in turn sell them to retailers, who then sell them to end users and consumers. Ceramics industries are those industries which involve in the manufacturing and processing of ceramics materials and indulge in either creation of new ceramics commodities or in value addition. They are industries that engage in converting clay materials, soil components, or types into finished goods that meet a customer's



expectations or specifications. The industries commonly employ a man-machine setup with division of labor in a large scale production. Nevertheless, ceramics industry can serve as a veritable tool for entrepreneurship development in Nigeria.

Entrepreneurship is the process of designing, launching and running a new business which is often initially a small business. Madison (2015) described entrepreneurship as the "capacity and willingness to develop, organize and manage a business venture along with any of its risks in order to make a profit". According to Schumpeter (2005), entrepreneurship is a process of change where innovation is the most vital function of the entrepreneur. It is the basic requirement for economic development in a free enterprise or mixed economy where innovation is the basis of development. Innovation in a system can increase the marginal productivity of the factors of production. UNIDO (2009) defined entrepreneurship as the process of using initiative to transform business concept to new venture, diversify existing venture or enterprise to high growing venture potentials.

Davis in 1983, as cited in Igbo (2005) sees entrepreneurship as the creation and running of one's own business. Timmons in 1987 also cited in Igbo (2005), sees it as the creation, building and distribution of something of value from practically nothing to individuals, groups, organizations and society. He summed up by stating that it involves planning and organizing small business ventures through the mobilization of people and resources to meet people's needs. Entrepreneurship is the activity of venturing into new enterprises. As distinct from management, entrepreneurship is the creation of new enterprises to meet new challenges and opportunities presented by a given situation. It is a process of bearing a non-insurable risk as to achieve business objectives by a person known as an entrepreneur. Awe (2010) described an entrepreneur as innovating individual, who perceives needs, conceives goods or services to satisfy the needs, and organizes the factors of production. The role he performs is called the entrepreneurial function and the process is called entrepreneurship. Thus, entrepreneur perceives the commercial potency of an idea mobilizes the needed resources and provides the force to detonate the commercial exploitation of the business idea, the business idea then turns into a commercial venture; which adds economic value and has profit as its main objective. However, an entrepreneur is an agent of entrepreneurship development.

Abianga (2010) defined development as the act or process of growth, progress and improvement within a physical setting. Hornby (2006) similarly defined development as the gradual growth of something so that it becomes more advanced and stronger. Shariff & Saud, (2009), from their own perception, saw development as a gradual advancement through progressive stages of growth from within. Hathaway (2013) considered development as a systematic process of training and growth through which the individuals gain and apply skill, knowledge, insight and attitude to manage work organization effectively. Development is thus seen as a process which involves growth. These features of development imply "change". The developmental approach to entrepreneurship, considers nurturing the actual or potential entrepreneurs to become effective in running their own organizations.



White (2014) stated that entrepreneurship development is the process of improving the skills and knowledge of entrepreneurs through various training and classroom programs. Moore (2015) hinted that entrepreneurship development aims to enlarge the base of entrepreneurs in order to hasten the pace at which new ventures are created. This accelerates employment generations and economic development. Entrepreneurship development refers to the process of enhancing entrepreneurial skills and knowledge through structured training and institutionbuilding programmes. Entrepreneurship development 'focuses on the individual who wishes to start or expand a business. Furthermore, entrepreneurship development concentrates more on growth potential and innovation. Essentially, this implies that entrepreneurship development is needed to enable an entrepreneur function appropriately and adequately in terms of; maintaining and developing the organized capability which makes achievement possible and coordinating the specialist functions that should enable a firm to perform the technical task in marketing, personnel, research and development, manufacturing, finance and control, especially in the face of changing technology and dynamic industry trend. Scott (2015) emphasizes the need for entrepreneurship development in the area of economic growth, employment generation and youth empowerment in Nigeria.

Entrepreneurship development has not been without challenges. Olabisi (2014) stated that the major challenges being faced by entrepreneurs in Nigeria, is the issue of start-up capital. It is very difficult to secure loans from banks as an entrepreneur, because some of these banks sees lending entrepreneur's money as a huge risk. This is due to the level of uncertainty surrounding the Nigerian economy. Idowu (2016) stated that the absence of good infrastructural facilities has been one of the major problems entrepreneurs are battling in Nigeria. The major one is the issue of 'epileptic power supply' that has forced so many businesses to shut down due to the high cost of running them. Imagine when entrepreneurs have to spend extra resources is buying fuel to run their generators. However, all hope is not lost as ceramics industries can play a vital role in enhancing entrepreneurship development in Nigeria.

Ugwu (2013) is of the view that ceramics industries encourage the creation of employment opportunities for the Nigerian citizens, which in turn increases the participation of interested people in contributing to the nation's development, by drastically reducing unemployment in our society. Udeh (2015) opined that ceramics industries will downplay rural-urban drift syndrome. Thus, the migration of people from rural areas to urban areas in search of white collar jobs which has resulted to high rate of crimes and congestion in cities like Lagos, Abuja, and Port Harcourt will reduce when government encourage citizens to go into ceramics industries as an entrepreneurial venture.

Nigeria as a country is often described as a rich country in which the majority of citizens were poor and lives below poverty level. Unemployment has been a problem in Nigeria, especially since 1980, when the nation's economy took a turn for the worse as world petroleum prices tumbled, the Nigerian currency became devalued, corruption became rampant, and the population of Nigeria ballooned at a breathtaking pace. The resultant poverty has posed



questions about the wisdom of conventional strategies for national development. Many decades ago, Nigeria was perceived one of the richest countries in Africa because of her great petroleum reserves and large population. Ironically, the most dominant feature of the Nigerian economy is unemployment and poverty. There is a need for a development plan that will revitalize the economy of Nigeria, and thereby provide relevant strategies for combating unemployment and poverty in Nigeria. Thus, such development plan is entrepreneurship development and it can be ignited by ceramics industries.

Statement of the Problem

Nigeria like most developing nations of the world is faced with myriads of problems and harsh realities which include poverty, unemployment, conflicts and disease. These situations pose great challenges to the very existence of individuals in most developing nations thereby calling for the creation of economic tool that can engender entrepreneurship development. Available information by National University Commission (NUC, 2007) reiterates the massive unemployment of Nigeria graduates of higher institutions in the country. This problem is said to be traceable to the disequilibrium between labour market requirement and lack of essential employment skills by the graduates. This obvious critical skills gap inhibits the development of youths and entire development of the nation. More than half of the Nigeria populations are under the age of 30 according to the National Population Commission (NPC, 2006). Therefore it can be assented that the economy of Nigeria is a youth economy. This reality leaves them without any meaningful means of sustainable livelihood. To make ends meets, they simply indulge in prostitution (both male and female) armed robbery etc. The youthful period which is a very critical one that has been noted as an essential time for training in entrepreneurship, provides a positive distractive alternative from the self destructive and aggressive behaviours that are frequently associated with adolescents and growing up. However, ceramics industries are a viable tool that can remedy this ugly situation to a large extent and also drive entrepreneurship development in Nigeria.

Objective of the Study

The main purpose of this study is to examine ceramics industries as a viable tool for entrepreneurship development in Nigeria. Specifically, the study seeks to:

- 1. Determine the need for entrepreneurship development in Nigeria.
- 2. Identify the challenges of entrepreneurship development in Nigeria.
- 3. Find out how ceramics industries can enhance entrepreneurship development in Nigeria.

Research Questions

The following research questions guided the study.

1. What is the need for entrepreneurship development in Nigeria?



- 2. What are the challenges of entrepreneurship development in Nigeria?
- 3. How can ceramics industries enhance entrepreneurship development in Nigeria?

Hypotheses

The following null hypotheses guided the study, and were tested at 0.05 level of significance.

Ho₁: There is no significant difference between the mean ratings of male and female entrepreneurs on the need for entrepreneurship development in Nigeria.

Ho₂: There is no significant difference between the mean ratings of male and female entrepreneurs on the challenges of entrepreneurship development in Nigeria.

Ho₃: There is no significant difference between the mean ratings of male and female entrepreneurs on how ceramics industries enhance entrepreneurship development in Nigeria.

Research Methodology

The design of this study was a descriptive survey. The target population for this study was 1902 entrepreneurs (male and female) in Awka; the capital of Anambra state (Ministry of Commerce and Industries Awka Anambra State, 2017). The sample of this study was drawn from male and female entrepreneurs in Awka Capital City through a stratified random sampling technique. From the Awka Capital City, entrepreneurs (300 male and 300 female) who can read and write were randomly selected for the study. The instrument for data collection was a questionnaire structured on a 4 – point rating of Strongly Agree (SA) 4 points, Agree (A) 3 points, Disagree (D) 2 points and Strongly Disagree (SD) 1 point.

The instrument was face validated by two experts from the Department of Fine and Applied Arts, one expert from Measurement and Evaluation, Nnamdi Azikiwe University Awka, Anambra State. The reliability of the instrument was established using the Cronbach Alpha formula. The reliability coefficient value yielded 0.76 on average which was considered adequate for the study. The instrument was administered to the respondents by the researcher and three research assistants. A total of 600 copies of the questionnaires were administered and collected on the spot from the respondents. The data was analyzed using mean score, standard deviation and t-test statistics for the three research questions and hypotheses posed for the study. Any mean score lower than 2.50 implied disagree whereas equal to or higher than 2.50 implied agree to the items. t-test statistics was used in testing the null hypotheses at 0.05 level of significance. If the t-calculated values are less than critical t-value, null hypotheses will be accepted, but if the t-calculated values are more than critical t-value, null hypotheses will be rejected.



Results

The results of the data analyses were presented in the order of research questions and hypotheses posed for the study.

Research Question One

What is the need for entrepreneurship development in Nigeria?

Table 1: Summary of t-test on the difference between the mean ratings of male and female entrepreneurs on the need for entrepreneurship development in Nigeria N = 600

S/N	Items	Male	Entr	Fen	nale E	ntr				
		$\overline{\mathbf{X}}_{1}$	SD ₁	$\overline{\mathbf{X}}_{2}$	SD_2	PL	t-cal	df	t-crit	rem
1. It will stimulate A Nigeria	economic growth in	3.18	3 0.4	0 3	.43 0.	21 0.	05 0.	078	598 1	.96
2. It will engender A in Nigeria	employment generation	on 3.35	0.32	2 3.	18 0.3	15 0.0	05 0.	064 5	i 1.	.96
3. It will induce the 1.96 A Nigerians	e empowerment of job	less 3	3.28	0.15	3.31	0.06	0.05	0.318	598	
4. it will encourag D new enterprises	e entrepreneurs to crea	ate 1	.94	1.47	2.05	1.64	0.05	0.040	598	1.96
5. It will mobilize A utilization of local	domestic savings and al resources	3	3.16	0.09	2.88	0.15	0.05	0.148	598	1.96

 \overline{X} = Mean, SD = Standard Deviation, PL = Probability Level, t-cal = t-calculate, df = degree of freedom, t-crit = t-critical, rem = remark, NS = Not Significant

The result in Table 1 shows that the mean ratings of the male entrepreneurs for item numbers 1-5 are 3.18, 3.35, 3.28, 1.94, and 3.16 with the corresponding standard deviation of 0.40, 0.32, 0.15, 1.47, and 0.09 respectively. On the other hand, the mean ratings of the female



entrepreneurs on the above items are 3.43, 3.18, 3.31, 2.05 and 2.88 with the corresponding standard deviation of 0.21, 0.15, 0.06, 1.64 and 0.15 respectively.

In the table above, the t-calculated value of each item was obtained; the degree of freedom of all items was 598, while the critical t-table of 1.96 was obtained at 0.05 level of significance. From the table, it can be seen that the t-calculated values for all items were less than critical t-value. Therefore, the null hypothesis of no significant difference between the mean ratings of male and female entrepreneurs on the need for entrepreneurship development in Nigeria was not rejected.

Research Question Two

What are the challenges of entrepreneurship development in Nigeria?

Table 2: Summary of t-test on the difference between the mean ratings of male and female entrepreneurs on challenges of entrepreneurship development in Nigeria N = 600

S/N Items	Items Male Entr Female Entr								
	$\overline{X_1}$ SD ₁ $\overline{X_2}$ SD ₂ PL t-cal df t-crit								
rem									
6. Lack of infrastructural facilities	2.99 0.71 3.33 0.19 0.05 0.015 598								
1.96 A									
7. Corruption of Nigerian leaders A	3.13 0.67 3.26 0.14 0.05 0.072 598 1.96								
8. Lack of credit facilities1.96 A	3.11 0.15 2.84 0.17 0.05 0.142 598								
9. Multiple taxation	3.43 0.17 3.23 0.13 0.05 0.176 598 1.96 A								
10. Inconsistent of government policies	2.20 0.24 2.09 0.48 0.05 0.072 598 1.96 D								

 \overline{X} = Mean, SD = Standard Deviation, PL = Probability Level, t-cal = t-calculate, df = degree of freedom, t-crit = t-critical, rem = remark, NS = Not Significant

The result in Table 2 shows that the mean ratings of the male entrepreneurs for item numbers 6-10 are 2.99, 3.13, 3.11, 3.43 and 2.20 with the corresponding standard deviation of 0.71, 0.67, 0.15, 0.17 and 0.24 respectively. On the other hand, the mean ratings of the female entrepreneurs on the above items are 3.33, 3.26, 2.84, 3.23 and 2.09 with the corresponding standard deviation of 0.19, 0.14, 0.17, 0.13 and 0.48 respectively.



In the table above, the t-calculated value of each item was obtained; the degree of freedom of all items was 598, while the critical t-table of 1.96 was obtained at 0.05 level of significance. From the table, it can be seen that the t-calculated values for all items were less than critical t-value. Therefore, the null hypothesis of no significant difference between the mean ratings of male and female entrepreneurs on the challenges of entrepreneurship development in Nigeria was not rejected.

Research Question Three

How can ceramics industries enhance entrepreneurship development in Nigeria?

Table 3: Summary of t-test on the significant difference between the mean ratings of male and female entrepreneurs on how ceramics industries can enhance entrepreneurship development in Nigeria N=600

S/N	Items	Academ	nic N	on-Ac	ademi	ic			
	2	$\overline{\mathbf{X}_{1}}$ SD	$1 \overline{X_2}$	SD ₂	PL	t-cal	df	t-crit	rem
11. It empower people to A capabilities in Nigeri		3.13	0.07	2.82	1.07	0.05	0.049	598	1.96
12. It can increase the ass A Nigeria	sets of people in	3.07	0.91	2.78	1.06	0.05	0.049	598	1.96
13. It can prevent food sl 1.96 D	nortage in Nigeria	2.04	1.07	1.88	1.14	0.05	0.126	5 598	
14. It can eliminate pove A	erty in Nigeria	2.88	0.14	3.12	0.06	0.05	0.056	598	1.96
15. It is a good avenue for generation in Nigeria		3.44 0	.22 3	.01 0	.38 0.	05 0.0	082 59	98 1.9	6 A

 \overline{X} = Mean, SD = Standard Deviation, PL = Probability Level, t-cal = t-calculate, df = degree of freedom, t-crit = t-critical, rem = remark, NS = Not Significant

The result in Table 3 shows that the mean ratings of the male entrepreneurs for item numbers 10-15 are 3.13, 3.07, 2.04, 2.88 and 3.44 with the corresponding standard deviation of 0.07, 0.91, 1.04, 0.14 and 0.22 respectively. On the other hand, the mean ratings of the female



entrepreneurs on the above items are 2.82, 2.78, 1.88, 3.12 and 3.01 with the corresponding standard deviation of 1.07, 1.06, 1.14, 0.06 and 0.38 respectively.

In the table above, the t-calculated value of each item was obtained; the degree of freedom of all items was 598, while the critical t-table of 1.96 was obtained at 0.05 level of significance. From the table, it can be seen that the t-calculated values for all items were less than critical t-value. Therefore, the null hypothesis of no significant difference between the mean ratings of male and female entrepreneurs on how ceramics industries enhance entrepreneurship development in Nigeria was not rejected.

Discussion of Findings

The need for entrepreneurship development in Nigeria

The result on table one shows that the entrepreneurs have similar view on the need for entrepreneurship development in Nigeria. They agreed that these needs are as follows: it will stimulate economic growth in Nigeria, engender employment generation in Nigeria and induce the empowerment of jobless Nigerians. These findings are in line with the emphasis made by Scott (2015) that the need for entrepreneurship development is in the area of economic growth, employment generation and youth empowerment in Nigeria. The entrepreneurs also agreed that entrepreneurship development will mobilize domestic savings and utilize of local resources. However, they disagreed that entrepreneurship development will encourage entrepreneurs to create new enterprises.

Challenges of entrepreneurship development in Nigeria

The result on table two shows that entrepreneurs have similar view on the challenges hindering entrepreneurship development in Nigeria. They agreed that the challenges include: lack of infrastructural facilities. This finding is in consonance with the statement credited to Idowu (2016) that the absence of good infrastructural facilities has been one of the major problems entrepreneurs are battling in Nigeria. He stated further that the major one is the issue of 'epileptic power supply' that has forced so many businesses to shut down due to the high cost of running them. Another challenge is lack of credit facilities. This finding is in concord with the statement credited to Olabisi (2014) that the major challenges being faced by entrepreneurs in Nigeria, is the issue of start-up capital. He stated further that it is very difficult to secure loans from banks as an entrepreneur, because some of these banks sees lending entrepreneur's money as a huge risk. The respondents also agreed that other challenges of entrepreneurship development are corruption of Nigerian leaders and multiple taxation. Nevertheless, they disagreed that inconsistent of government policies is a challenge of entrepreneurship development in Nigeria.

How ceramics industries can enhance entrepreneurship development in Nigeria

The result on table three shows that entrepreneurs have similar view on how ceramics industries can enhance entrepreneurship development in Nigeria. They agreed that ceramics



industries can enhance entrepreneurship development in Nigeria in these ways: it empowers people to develop their capabilities in Nigeria, it can increase the assets of people in Nigeria and it is a good avenue for employment generation in Nigeria. This finding is in tune with the view of Ugwu (2013) that ceramics industries encourage the creation of employment opportunities for the Nigerian citizens, which in turn increases the participation of interested people in contributing to the nation's development, by drastically reducing unemployment in our society. The respondents also agree that ceramics industries can eliminate poverty in Nigeria. Nonetheless, the respondents disagreed with the fact that ceramics industries can prevent food shortage in Nigeria.

Conclusion

Entrepreneurship development is essential for rapid and sustained economic growth and development. It creates the required man power and skills necessary for accelerated growth, reduce unemployment and poverty. It is therefore strategic and wise for Nigeria to assign a significant and increasing role to entrepreneurship development in their effort to revamp the economy. In a bid to attain this goal, one of the major areas to explore is ceramics industries. Ceramics industries have the potentials to enhance entrepreneurial skills and knowledge of individuals and basically aim to enlarge their base in order to hasten the pace at which new ventures are created. This accelerates employment generation and economic development. Ceramics industries can encourage an individual who wishes to start or expand a business. It also enhances development of enterprise, whether or not it employs or is led by individuals who can be considered entrepreneurial. Furthermore, ceramics industries concentrate more on growth potential and innovation than SME development does. Hence, it is a viable tool for entrepreneurship development in Nigeria.

Recommendations

Based on the findings of this study, the following recommendations were made:

- 1. That Government (policy makers) should genuinely recognize the essence of entrepreneurship to economic development in Nigeria.
- 2. Government should increase its funding of financial institutions that provide on lending to entrepreneurs.
- 3. Ceramics industries should be declared a priority sector within the national policy framework supported with effective and practical policies at all levels.
- 4. All legal and administrative constraints inhibiting the promotion and development of ceramics industries in Nigeria should be removed
- 5. Governments should promote, encourage and facilitate ceramics industries so that they could play an effective role in entrepreneurship development in Nigeria.
- 6. Finally, the government should provide the enabling environment for private sector led investment for economic development by providing adequate infra-structural facilities (water, electricity, road network, communications etc.).



References

- Abianga, M. (2015). *Basic principles and concepts of development*. Tehran: Soroush Publications, p. 11.
- Awe, .O.W. (2010). *Entrepreneurship development*, Fifth Edition. Lagos: YBT Printserve Ventures.
- Burakov, B.E. (2010). *Crystalline materials for actinide immobilisation*. London: Imperial College Press. Pp.198.
- Carter, C. B.(2014). *Ceramic materials: Science and engineering*. New York: Springer. pp. 3 & 4.
- Casmir, N. (2016). Ceramic steel. Nature. 258 (5537), 703–704.
- Esnad, M. (2011). *Ceramic Innovations in the 20th century*. New York: The American Ceramic Society.
- Geiger, G. (2011). Introduction to Ceramics. New York: The American Ceramic Society.
- Hathaway, I. (2013). Tech starts: High-technology business formation and job creation in the United States. *Ewing Marion Kauffman Foundation Research Paper*.
- Hornby, M. (2006). Development, definition of theories and patterns. Tehran: Pardis Publications.
- Idowu, M. (2016). Entrepreneurship and small firms in Nigeria. Ibadan: Destiny Press.
- Igbo, C (2005). Modern institutional techniques and their application in Technical Vocational Education Programs of Polytechnic and Monotechnics". ETF capacity Building Workshop, Auchi, Nov 2005.
- Kohser, R. A. (2012). *DeGarmo's materials and processes in manufacturing*. Junairo: Wiley. p. 226.
- Liddell, R.S (2015). A Greek-English Lexicon. Persrus: Perseus digital library.
- Madison, E. (2015). Impact of entrepreneurship ventures on development of small and medium enterprises in Nigeria. *International Journal of Economics, Commerce & Management*, 7(5), 311-322.



Moore, H. (2007), Practical approach to entrepreneurship development; small and medium scale enterprise (SMES). Arizona: Holy Tree Press.

NPC (2006). National Population Census result: Year 2006. Abuja: FGN Press.

NUC (2007). National University Commission annual report. Abuja: FGN Press.

Olabisi, M. (2014). Entrepreneurship development and economic growth in Nigeria. *Journal of Economics Development*, 4(3), 55 – 67.

Schumpeter, J.A. (2003). *The theory of economic development*. New Brunswick, New Jersey: Transaction Publishers.

Scott, A. (2015). Opportunities for Entrepreneurship development in Nigeria. Festac: Gbenga Press.

Shariff, M. N. M., & Saud, M. B. (2009). An attitude approach to the prediction of entrepreneurship on students at institution of higher learning in Malaysia. *International Journal of Business and Management*, 4(4), 129.

Udeh, G. (2015). Ceramics industry as a potential of economic development in Nigeria. *Journal of Economic Development*, 4(2), 67 – 89.

Ugwu, B. (2013). Towards the revitalization of nation's economy. Enugu: Snaap Press.

UNIDO (2009). "Report" www.unido.org.

White, A. (2014). The concept of entrepreneurship development. Lethna: Swan Press.