Technopreneurship Education and Technological Advancement for a Sustainable Growth and Development in Nigeria

Moemenam I.C.,1 Moemenam A. O.,2 Okwara C. C.3 Ohagiro Lucky4 and Alozie Sunny T.5

1, 4&5Department of Banking and Finance, Imo State Polytechnic Umuagwo
2Department of Educational Foundations, Ebonyi State University Abakaliki
3Department of Marketing, Imo State Polytechnic Umuagwo-Ohaji

Corresponding Author: moechris2002@yahoo.com

Abstract

Technopreneurship is a major engine of Technological Advancement of any nation. Its role for economic growth and development can not be overemphasized. Therefore, this study investigates the relationship between Technopreneurship Education and Technological Advancement in Nigeria. It is aimed at proffering solution to the poor supply of technopreneurship in Nigeria. The method of data analysis was the use of Likert scale rating model with a 2.5 bench mark. A major finding of this work reveals that there is a strong agreement among respondents that increase supply of technopreneurship increases Technological Advancement in Nigeria. This has a mean score of 3.6, which is quite high as Compared to the 2.5 bench mark showing a high positive relationship between the two variables further findings shows that technopreneurship have no impact on the Technological Advancement in the Nigeria economy. Other findings reveals that corruption, lack of government support, inadequate infrastructure etc are some of the constraint factors that are responsible for poor supply of technopreneurship in Nigeria. Among the recommendation are that government should adopt a verile policy that will encourage the supply of technopreneurship in Nigeria. They should endeavour to recover all the stolen money from corrupt leaders and use it to improve the supply of technopreneurship so that the economy can improve and living standard increased in Nigeria. This research work will be relevant to other researchers who may want to research more on this topic, the government, Economic experts, the researcher and the public in general.

Keywords: Technopreneurship, Technological Advancement, Economic Growth and Development, Technopreneurs, Engineering, Information and Communication.

Introduction

The term technopreneur arose from within Singaporean culture to describe an individual whose entrepreneurial endeavors focus on a technology centered enterprise. The government of Singapore has embraced technopreneurship education and has launched several initiative to promote technopreneurship as a means of improving economic growth and development.
In the past three years, the government of Singapore sponsors university courses on technopreneurship and have helped in connecting venture capitalist with budding technopreneur to assist in the development of technopreneurship. This greater openness by the government of Singapore has encouraged many new start-ups to form and the country is well on its way to fully integrating itself with the new Singapore Economy. The Singapore’s success with technopreneurship policies has influenced other Asian countries to begin their own technopreneurship initiative. As such, Malaysia recently launched its multimedia super corridor to encourage domestic technology development. Hong Kong also has recently completed the construction of its cyberport, a technopreneurship friendly business district.

The technopreneurship encouragement has also taken place in certain cities in India. In order to utilize the educated youths, who have been trained in engineering and computer programming, International IT companies began locating in India, particularly in Bangalore. This result is that Bangalore has become a powerhouse for software production. Although Indian technopreneurs were not originally at the centre of Bangalore’s technology development they are now beginning to pop up throughout southern India, largely due to the government’s help in creating the right climate to encourage the sunrise industry. Several countries are building techno parks where the youths are encouraged to get involved in information technology related activities or in some cases other forms of hi-tech activities. These parks are solely devoted to the development of technopreneurs. Although there are evidence of such parks like the computer village in Lagos and some other parts of Nigeria. They are there without government support. The importance of technopreneurship development in Nigeria cannot be overemphasized especially on its role in job creation. The government should look into its development for increased growth and development of the economy.

**Statement of the problem**

The significance of technopreneurship in any nation can not be overemphasized. They are important in the technologies advancement of every nation which in turn brings in employment generation for the timing unemployed graduated in the third world country like Nigeria. Nigeria had been saddled with poor supply of Technopreneurship. This had been adjudged to be so as a result of inadequate technical know how when compared with the happening in the advanced Economy like USA, Britain, China etc. Nigeria had been a developing nation saddled with lots of constraints factors that are responsible to it under development. Technopreneurship need to be increased in Nigeria so that employment generation can be achieved and living standard of the masses improved.

**Objectives of the Study**

The following are stated objective of this study

(1) To establish the relationship between that supply of Technopreneurship and Technological Advancement of Nigeria.

(2) To identify the constraint factors militating against the increase supply of technopreneurs in Nigeria

(3) To examine the impact of Technopreneurship on the Technological Advancement of Nigeria

(4) To examine the influence of Technological Advances on the growth and development of the Nigeria Nation.

(5) To make virile policy that will increase Technopreneurship in Nigeria.
Research Questions
(1) What relationship exist between Technopreneurship and Technological Advancement in Nigeria
(2) What constraints factors are responsible for low supply of Technoprenuers in Nigeria
(3) Have Technopreneurship any impact on the Technological Advancement of Nigeria
(4) What influence has Technological Advancement on the economic growth and development in Nigeria?
(5) What are the policies that can encourage the increase supply of Technopreneurship in Nigeria?

Research Hypothesis
Hypothesis one
H0: Technopreneurship have no significant relationship with Technological Advancement in Nigeria
H1: Technopreneurship have significant relationship with Technological Advancement in Nigeria.

Hypothesis Two
H0: There are no constraint factors responsible for low supply of Technopreneurship in Nigeria.
H1: There are constraint factors responsible for low supply of Technopreneurs in Nigeria.

Hypothesis Three
H0: Technopreneurship have no impact on the Technological Advancement of Nigeria.
H1: Technopreneurship have impact on the Technological Advancement of Nigeria

Hypothesis Four
H0: Technological Advancement have no influence on the economic growth and development of Nigeria.
H1: Technological Advancement has influence on the economic growth and development of Nigeria.

Methodology
A survey research design was adopted in this study. This is because it is a fact finding techniques that focuses on people. The group involves those that are Technoprenuers in the area of Engineering Technology (Mechanical, Electrical, Civil, Chemical, water etc.), information and telecommunication in Owerri zone of Imo State of Nigeria. 500 respondents were randomly selected for the study in Owerri Senatorial zone of Imo State from the parks, industrial Markets, Main Markets Mechanic village etc. These areas were selected because of the existence of many Technopreneurs in these places. The method of data analysis were the use of likert scale rating Model in which questions were structured on a 4 points rating scale of Strongly Agree (SA) 4 points, Agree(A) 3points Disagree (D) 2points and strongly Disagree (SD) 1point; with a mean of 2.5 Bench Mark. As a result any mean that is greater than 2.5 is Agree while any mean that is below 2.5 is Disagree.
Data presentation

Table 1 Research Question 1
Mean response of the respondents on the relationship between Technoprenuership and Technological Advancement in Nigeria.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Items</th>
<th>Mean</th>
<th>SD</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Increase in the supply of Technopreneurship increases Technological Advancement</td>
<td>3.60</td>
<td>2.11</td>
<td>A</td>
</tr>
</tbody>
</table>


The table above reveals that supply of Technopreneurship is the independent variable while Technological Advancement is the dependent variable. It shows a mean score of 3.60 which is quite high as compared to the 2.5 real limit of agreed responses from the respondents.

Table 2 Research Question Two
Mean responses of respondents on constraint factors that are responsible for low supply of Technopreneurship in Nigeria.

<table>
<thead>
<tr>
<th>S/N</th>
<th>ITEMS</th>
<th>MEAN</th>
<th>SD</th>
<th>RMKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Corruption on the side of our past leaders</td>
<td>3.34</td>
<td>1.49</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>Lack of foreign exchange</td>
<td>3.45</td>
<td>1.76</td>
<td>A</td>
</tr>
<tr>
<td>3</td>
<td>Increase in foreign Exchange rate</td>
<td>3.31</td>
<td>1.43</td>
<td>A</td>
</tr>
<tr>
<td>4</td>
<td>Lack of skilled manpower</td>
<td>3.25</td>
<td>1.30</td>
<td>A</td>
</tr>
<tr>
<td>5</td>
<td>Lack of government support for inventors</td>
<td>3.45</td>
<td>1.85</td>
<td>A</td>
</tr>
<tr>
<td>6</td>
<td>Political unrest leading to increase insecurity to lives and property.</td>
<td>3.25</td>
<td>1.30</td>
<td>A</td>
</tr>
<tr>
<td>7</td>
<td>Lack of proper planning</td>
<td>3.25</td>
<td>1.30</td>
<td>A</td>
</tr>
<tr>
<td>8</td>
<td>Competition from imported products</td>
<td>2.65</td>
<td>7.54</td>
<td>A</td>
</tr>
<tr>
<td>9</td>
<td>Lack of venture capital providers</td>
<td>2.83</td>
<td>0.897</td>
<td>A</td>
</tr>
<tr>
<td>10</td>
<td>Poor infrastructural facilities</td>
<td>2.69</td>
<td>0.98</td>
<td>A</td>
</tr>
<tr>
<td>11</td>
<td>Inability to access fund locally</td>
<td>2.95</td>
<td>1.18</td>
<td>A</td>
</tr>
<tr>
<td>12</td>
<td>Poor policy measure</td>
<td>3.22</td>
<td>2.14</td>
<td>A</td>
</tr>
<tr>
<td>13</td>
<td>Persistent increase in the price of petroleum product.</td>
<td>3.25</td>
<td>1.30</td>
<td>A</td>
</tr>
</tbody>
</table>


The above table indicates that all the items with the mean scores of 3.34, 3.45, 3.31, 3.25, 3.45, 3.25, 3.25, 2.65, 2.83, 2.69, 2.95, 3.22 and 3.25 agreed that corruption by our past corrupt leaders who stacked outside the country money that is supposed to be used for technological advancement through technopreneurs, lack of foreign exchange and increase in the foreign exchange rate that affects the importation of technology for increase technopreneurship, lack of skilled manpower that will train the technopreneurs for increase supply of technology. Lack of government support for inventors, political unrest leading to insecurity of lives and properties like the Boko Haram, and the Niger Delta Avengers that distorts foreign investors, lack of proper planning by the technopreneurs who does not apply SWOT Analysis in their planning processes, competition from imported products and the Nigerians perspective belief on foreign products, lack of venture capital which is completely absent in the Nigerian financial system (It is only obtainable abroad), they normally assist new ventures in giving them money and other financial assistance, poor infrastructural facilities like power supply and good roads, inability for Technopreneurs to access loanable
funds locally, poor policy measure by the government and persistence increase in the prices of petroleum products are some of the constraint factors that are responsible for low supply of technopreneurs in Nigeria.

**Table 3 Research Question Three**
Mean responses of respondents on the impact of technology of Technopreneurship on the technological Advancement of Nigeria.

<table>
<thead>
<tr>
<th>S/N</th>
<th>ITEMS</th>
<th>MEAN</th>
<th>SD</th>
<th>RKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Technopreneurship have high impact on the Technological Advancement of Nigeria.</td>
<td>2.12</td>
<td>-1.60</td>
<td>D</td>
</tr>
</tbody>
</table>

**Source:** Research Survey 2016.

Data in the above table reveals that item 1 have a lower mean score of 2.12 which is below the greed limit of 2.5. This shows that technopreneurship have not impacted on the Technological Advancement of Nigeria. Hence, urgent measure needs to be taken to that effect.

**Table 4 Research Question Four**
Mean responses of respondents on the influence Technological Advancement has on economic growth and development of Nigeria.

<table>
<thead>
<tr>
<th>S/N</th>
<th>ITEMS</th>
<th>MEAN</th>
<th>SD</th>
<th>RKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Reduction in Technological Advances reduces Economic growth and development in Nigeria.</td>
<td>3.21</td>
<td>1.42</td>
<td>A</td>
</tr>
</tbody>
</table>

**Source:** Research Survey 2016.

The data in the above table shows that reduction in technological advance reduces Economic growth and development in Nigeria. The data in the table shows a mean score of 3.21 which is above the bench mark of 2.5 which is in agreement with the opinions of the respondents.

**Hypothesis Testing**

**Hypothesis One**

**H0:** There is no significant relationship between Technopreneurship and Technological Advancement.

**H1:** There is a significant relationship between Technopreneurship and Technological Advancement.

To carry out this test table 1 will be used, the onus is to test whether there is any significant relationship between Technopreneurship and Technological Advancement. Table 1 reveals the mean score of 3.60 which is quite high and it indicates that increase in the supply of Technopreneurship increase Technological Advancement. Therefore, the null hypothesis which states that there is no significant relationship between Technopreneurship and Technological Advancement is rejected. The alternative hypothesis which states that there is a significant relationship between Technopreneurship and Technological Advancement is hereby accepted.

**8.1 Hypothesis Two**

**HO:** There are no constraints factors responsible for low supply of Technopreneurs in Nigeria.
H1: There are constraints factors responsible for low supply of Technopreneurs in Nigeria. This hypothesis can be tested using table 2 with responses of respondents on constraint factors responsible for low supply of Technopreneurship in Nigeria. Here, all the items provided the mean scores that are above the 2.5 bench mark which is in agreement that up to 13 factors are responsible for the low supply of Technopreneurship in Nigeria. Therefore, the null hypothesis which states that there are no constraint factors responsible for low supply of Technopreneurship in Nigeria is rejected and the alternative hypothesis which states that there are constraint factors that are responsible for low supply of Technopreneurship in Nigeria is hereby accepted.

Hypothesis Three
HO: Technopreneurship have no impact on Technological Advancement of Nigeria.
H1: Technopreneurship have impact on Technological Advancement of Nigeria

This can be tested using the Likert model showing mean responses of respondents on the impact of Technopreneurship on Technological Advancement of Nigeria as prescribed in table 3. Here, there is a mean scores of 2.12 which is below the bench mark of 2.5. Therefore, the null hypothesis which states that Technopreneurship have no impact on Technological Advancement is hereby accepted and the alternative which states that technopreneurship has impact on Technological Advancement of Nigeria is hereby rejected.

Hypothesis Four
HO: Technological Advancement have no influence on the Economic growth and Development of Nigeria.
H1: Technological Advancement have influence on the Economic growth and Development of Nigeria.

This hypothesis can be tested using table 4 which shows the mean responses of respondents on the influence of Technological Advancement on economic growth and development of Nigeria. Here, there is a mean scores of 3.21 which is quite high as compared to the 2.5 real limit (bench mark) which is in agreement with the opinions of respondents. Therefore, the null hypothesis which states Technological Advancement have no influence on the economic growth and development of Nigeria is rejected and the alternative hypothesis which states that Technological Advancement have influence on the economic growth and development of Nigeria is hereby accepted.

Summary of Findings
A major finding of this study reveals that there is a strong agreement among respondents that increased supply of Technopreneurship increases technological advancement. Also, the study shows that there is a high positive relationship between the two variables of increased Technopreneurship and increased technological advancement in Nigeria. The study discovered a lot of constraint factors that are responsible for low supply of technopreneurs, hence, poor technological advancement in Nigeria. Those constraint factors include:

(1) Corruption
(2) Lack of Foreign Exchange
(3) Increase in Foreign Exchange rate
(4) Lack of skilled manpower
(5) Lack of Government support for inventors
(6) Political unrest leading to insecurity of lives and property.
(7) Lack of proper planning
Competition from Imported goods
Lack of Venture Capital Providers
Poor infrastructural facilities
Inability to access fund locally.
Poor policy measure
Persistent increase in the prices of petroleum product.
Other findings show that Technopreneurship have not impacted on the technological advancement of Nigeria as she imports so many products that can be produced here assuming that Nigeria have advanced technologically.

Something urgent needs to be done so that Nigeria can move forward technologically, so that its foreign exchange can be conserved.

Conclusion
This study is anatomical aimed at educating the Nigerian government, Economic Experts and the masses in general. Here, the study draws their attention to the findings and recommendation of the study. Other researchers should investigate more on the topic in order to put to an end the problem of poor supply of Technopreneurs in Nigeria hence Technological Advancement and Economic growth and development, so that the economy can grow and living standard improved. Consequently, the writer wishes to express his support for a verile policy that will encourage increased Technopreneurship for Technological Advancement in Nigeria.

Recommendation
The recommendations are based on the findings of this study.

(1) **Corruption:** Government through its agencies (EFCC and DSS) should fight corruption to the last and recoveries made from corrupt leaders should be channeled to technopreneurship development in Nigeria.

(2) **Lack of Foreign Exchange:** Technology is imported and lack of foreign exchange distorts the importation of technology. Government should diversify the economy for improved foreign exchange that will be used to import technology.

(3) **Increase in Foreign Exchange Rate:** When exchange rate is high to import technology will be expensive. Government should improve on foreign exchange earnings and lower the demand for foreign goods so that enough foreign exchange will be available for increased technopreneurs.

(4) **Lack of Skilled Manpower:** The government should introduce technopreneurship training in our university and polytechnic, so that skilled manpower will be available for the increase in technopreneurship. They should imitate technopreneurship educational programmes, so that people will be equipped with more skills.

(5) Government should support any inventor that has a good idea that will increase the supply of technopreneurs in Nigeria.

(6) Government should look into the political unrest that leads to insecurity of lives and properties, so investors can come to Nigeria with their technology which can be borrowed for increase supply of technopreneurs in Nigeria.

(7) Nigeria is saddled with the problem of poor planning. This has affected the supply of technopreneurs in Nigeria. Thus government should imbibe a proper planning habit that will encourage the supply of technopreneurs.
They should develop technopreneurship. Encouragement Programmes especially in mechanized Agriculture for the production of rice, cassava and other agricultural products.

Government should improve the availability of credit and capital to encourage and boost technopreneurship in Nigeria. They should encourage the provision of venture capital providers in Nigeria for the technopreneurship development.

Government should put in place conducive environment for the improvement of infrastructural facilities in Nigeria like power supply that will increase the supply of technopreneurs.

Government should also through the CBN put in place stable monetary policy rate to make fund cheap to technopreneurs.

Government should put in place favourable business laws in order to encourage increased supply of technopreneurship bypassing legislation that is friendly towards technopreneurship.

Increase in the prices of petroleum product increases the cost of production of any kind. Technopreneurs are into the production of technologically driven products. Government should give licenses to local refiners and crude given to them free of charge so that the price of petroleum will come down as this will go a long way in improving technopreneurs in Nigeria.

Government should also improve in its fiscal policy measure to encourage increase in the supply of technopreneurs in Nigeria.

Government should reform market regulation to facilitate technopreneurship entry into the Nigeria local market so that Nigerians can patronize made in Nigeria goods and services.

References