Chemistry Entrepreneurship: A Panacea for Chemistry Graduates Unemployment-The Nigerian Experience

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Abstract
This study sought to examine chemistry entrepreneurship as a panacea for chemistry graduates unemployment in Nigeria. The recent economy recession world-wide and particularly in Nigeria has necessitated the need to make a paradigm shift from consuming economy to producing economy. For any nation to attain the status of producing economy, its citizens must have acquired entrepreneurial skills in all sectors of the economy. Entrepreneurship is the capacity and willingness to develop, organize and manage a business venture along with any of its risks in order to make a profit. The notion to become an entrepreneur in Nigeria is fast gaining ground in the face of little or no government jobs. The labour market is gradually becoming more attractive to graduating students as they want to be self-employed and independent. In view of all these, there is the need to entrench entrepreneurship education into our school curricula at all levels of education, most especially the higher institutions. This being as it is, there is need for inclusion of chemistry entrepreneurship in the chemistry curriculum most especially for our higher education students. Chemistry entrepreneurship being offered as a course will equip the students with the knowledge and skills to convert innovations from researches in chemistry into marketable products for commercial gain. Many of the household materials being used on daily basis are the products of innovations from chemistry researches. Such household materials as soap, candle, cream, toothpaste, slippers, shoe polish, insecticides, herbicides among others are enough, if invested in, to make a chemistry graduate a wealth creator instead of a job seeker. In view of the above, the paper recommends that the Nigerian government should prioritise, generally the academic entrepreneurship and particularly chemistry entrepreneurship in all our higher institutions, as this will go a long way in arresting the spate of chemistry graduates unemployment and also strengthen the nose-diving economy in the country.

Keywords: Chemistry entrepreneurship, innovations, wealth creation, knowledge, skills

Introduction

The issue of economy nose-diving has necessitated the need to make a paradigm shift from consuming economy to producing economy. For any nation to thrive as producing economy there is need for entrepreneurial skills among the citizenry. This can be made possible by making the concept of entrepreneurship a focal point in the developing of curriculum for emerging nations.

Statement of the Problem

The paucity of gainful employment among our youths, especially the University graduates has been a matter of concern for some years past. Majority of our graduates focus their attention on white collar jobs rather than thinking skifully on how they can be self employed. These graduates cannot be totally blamed for this because they were not given orientation during their course of study on how to convert the innovations from their researches into marketable products that can fetch them profits. It is in view of this that the study examined chemistry entrepreneurship as a panacea for graduates unemployment in Nigeria.

What is Entrepreneurship?

Entrepreneurship is the capacity and willingness to develop, organize and manage a business venture along with any of its risks in order to make a profit (wikipedia 2008). The hall mark of entrepreneurship is the setting up of a new business; starting up a new business requires an entrepreneurial spirit which is characterized by innovation and risk taking. This is an essential part of any nation's ability to succeed in an ever changing and competitive global market place. Entrepreneurship can easily scare people away from attempting it because there is no guarantee that the business will work, and the entrepreneur may end up losing money for the first few years. Going through the traditional definition of entrepreneurship, it is viewed as the process of designing, launching and running a new business such as a start up company, offering a product process or service for sale or hire. Entrepreneurships typically focus on launching and running of business. In view of the high risks involved in launching a start up enterprise, a significant proportion of business has to close down for a lack of funding, bad business decisions, an economic crisis or a combination of these due to lack of market demand. In the recent years the

scope of entrepreneurship has been widened to include how and why some individuals identify opportunities, evaluate them as viable, and then decide to exploit them. It also includes how entrepreneurs' use these opportunities to develop new products or services, launch new firms and create wealth. According to Oyeku, Oduyoye, Elemo, Akindoju, Karimu and Unuigbe (2015), entrepreneurship involves a process of creating something new with value through innovation with associated financial reward.

Who is an entrepreneur? According to Encyclopedia (2008) an entrepreneur is a person who organizes and manages any enterprise, especially a business, usually with considerable initiative and risk. He is seen as a business leader and an innovator. The notion to become an entrepreneur is gradually gaining ground in the face of paucity of white collar jobs. Not only this, the students also want to participate in the labour market without losing their independence (Martinez et al 2007). The most common values among graduates facing the new labour market are linked to those of the self-employed, independence, challenge and self realization (Luthje and Franke, 2003). In view of all these, there is need to fully entrench entrepreneurship education into our school curricula at all levels of education.

What is Entrepreneurial Education?

Entrepreneurial education is a life long learning process that provides students with the knowledge, skills and innovation to encourage entrepreneurial success in a variety of settings. It is offered at all levels of schooling from elementary through university level. Many countries now lay much emphasis on entrepreneurial education for their citizenry as entrepreneurship has been identified as a key driver of their economies. It has been observed that people exposed to entrepreneurship often assert that they have opportunities of displaying creative freedoms, higher self-esteem and overall greater sense of control over their own lives. It is the opinion of many experienced people that fostering a robust entrepreneurial culture will maximize individual and collective economic and social success on a local, national and global scale. A lot of benefits await the students at all levels of education that have undergone entrepreneurial education. To the students at elementary level, the benefits include:

- Increased attendance at school

- Higher academic achievement
- Fewer discipline referrals
- Awareness of career and entrepreneurial options
- Acquisition of basic financial concepts
- Acquisition of basic economic understanding, etc

To the post-secondary and adult students, the benefits are:

- Ability to demonstrate skills in business start-up,
- Ability to demonstrate skills in maintaining business longetivity
- Ability to demonstrate knowledge of business closings versus failures
- Ability to access other resources and services,
- Ability to demonstrate business management
- Changed attitude towards entrepreneurship as a means of making a living .etc

Having highlighted the benefits acrued to our students at all levels of education, cutting across all various disciplines in school curriculum, one at this juncture can now delve into the researcher's main focus, which is chemistry entrepreneurship.

What is Chemistry Entrepreneurship and its implications for chemistry graduates employment.

Chemistry is the science of matter and the changes it undergoes. It attempts to explain chemical phenomena of everyday life. Chemistry shows up as a scientific discipline with many overlaps and interfaces to other fields and applications for myriad of areas of day-to-day life. For instance, the chemical industry exhibits co-evolutions with many other industries such as textiles, paper, automotive, oil, food, electricity and electronics, water energy, e.t.c. (Runge 2006). Based upon these, chemists are supposed to be job creators rather than job seekers. Many of the research results in chemistry end up in journal publications and science libraries. The missing gap in the chemistry curriculum is entrepreneurship.

When innovations from research in chemistry are converted into marketable products for commercial gain, chemistry entrepreneurship is on course. Many of the household materials being used on daily basis are the products of the chemistry researches. There is need to entrench chemistry entrepreneurship into the school curriculum as a subject or course. Many thanks to the

chemistry department of Adeniran Ogunsanya College of Education, Lagos an affiliate of Ekiti State University, Ado-Ekiti, that has converted many of its students' laboratory innovations to marketable products. The department has introduced chemistry entrepreneurship as a course and is making money through the sales of products including soaps, hair cream, shoe polish, mosquito repellants, herbicides, gum, sanitizers, after shave lotion and many more. The chemistry graduates of this institution are most likely to be wealth creators rather than seeking white collar jobs which are not easily attainable.

Chemistry entrepreneurship is an indispensable antidote for various sicknesses of our society. We need it to solve the problem of unemployment that is bedeviling our nation. The students' enrolment in tertiary institutions is increasing on yearly basis and it is an open secret that the government and private sectors have limited spaces to employ the graduates of these institutions, making the rate of unemployment to be correspondingly high. (Ogunsola 2009, Aja-Okorie and Adali, 2013) in their study also asserted that the situation of unemployment in Nigeria is indeed alarming. Chemistry entrepreneurship is not only suitable to tackle the problem of unemployment it is also appropriate for growing natural economy. Not only this, chemistry entrepreneurship has the potential of creating wealth to reduce poverty. Nigeria is ranked 4th among 118 nations on hunger list based on Global Hunger Index (GHI) (IFPRI, E2012).

Conclusion and Recommendations

All the state governments of the federation should as a matter of duty create interest in the developing of entrepreneurial skills in the citizens. This can be done by entrenching entrepreneurial education in the school curricula at all levels of education. Also, governments all over the federation should fund the innovations from chemistry researches in order to assist the graduates in setting up their own business and eventually become self-employed. The Lagos State Government should be commended in this regard by putting in place a Ready Set Work (RSW) programme which seeks to develop entrepreneurial skills in the school gradurands. In the process, two students of College of Health Technology, Lagos have succeeded in developing technology for Biogas production which has earned them a wooping sum of five million naira from the state government for start-up business in that area. (Nigeria tribune 15/9/2016). If chemistry entrepreneurship and by extension, technology entrepreneurship could be offered at all

levels of education, the rate of unemployment in Nigeria would be drastically reduced. Not only this, the ailing Nigeria economy would also be improved.

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