

THE ROLE OF CHEMISTRY-BASED VENTURES IN PROMOTING EMPLOYMENT AND WEALTH GENERATION

Tosan Emeka Ijeh

Department of Chemistry, College of Education, Agbor, P.M.B. 2090, Agbor, Delta State, Nigeria

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Abstract: Chemistry rule the world, it therefore offers various business avenue for job and wealth creation skills both technical and managerial to commercialize their innovations for profit making, creating jobs for others and impacting the economy positively. Entrepreneurship chemistry involves products that are marketable for financial benefit. Chemistry can now go beyond academic publications to patenting and commercializing of their products. This paper calls for paraglism shift in chemistry which not only end in academic journal but marketable products and encouraging scientist (chemists) to make commercialization their research goals form conceptualizing stage till the final stage.

Keywords: Innovation, chemistry entrepreneurship, chemistry skills and economic development.

Introduction

What in the world is not chemistry? It is the popular slogan of the Institute of Chartered Chemistry of Nigeria (ICCON). With basic knowledge in chemistry and research or laboratory practice and day to day experiences, one world would agree that everything in the world is chemistry, therefore chemistry rule the world. When our patience in the laboratory works are put into long term effect, it can be converted to money and more job opportunities for all- especially in a recessing and a dwindled economy (Aja and Adeli, 2013). Knowledge economy has to do with selling or commercializing of finding sand innovation of scientist in particular and academic in general by creating, licensing and partnerships with bodies (Odia and Odia, 2013). Entrepreneurship was introduced into academic in US during Reagon Administration and the major policy that influenced academic entrepreneurship in the Bagh Dole Act of 1980 – that proudes incentivizes for firms and universities to commercialize Von II unzelmann (2012). The act forms a uniform policy patenting uniformity restriction. Although this act brought out commercialization and application for research in institution, it has not yield much effort. In Nigeria, little effort has been achieved by introducing entrepreneurship education into school curriculum and courses introduced at all levels Sarwoko (2013).

The aim of this paper is to examine entrepreneurship in chemistry and how it can be transformed into financial benefits i.e applying the economy knowledge for financial gain, by being self-employed and providing jobs for others than looking for jobs which is nowhere in Nigeria to boost economic prosperity.

Chemistry is the branch of science which looks and studies the nature of mater, properties, why substances combine and how they separate to form substances and interact to form other subsistence and interact with one another Oyeku (2015). It can be referred as branch of physical sciences in terms of composition structure, properties and changes because matter consists of atoms and molecules: matter is neither destroyed nor created in course of chemical reaction. It is the central of both natural and physical sciences. It is also interesting to note that chemistry is founded everywhere, in what we see, sell, hear, taste, touch which entails interaction and chemical reactions. Chemistry is involved in

most disciplines you can name or think of - Zoochemistry, Astrochemistry, food chemistry, Agricultural chemistry, geochemist, radiochemistry, etc. so the application of chemistry is in almost everything, Postiglione (2005). Chemistry has gone into new age of nanoscience, synthesis, computational chemistry, electrochemistry, electrochemistry material and prosthetic, aging, supercapacitor, catalysis material sickness. These have advantage to make like comfortable.

Entrepreneurship

Entrepreneurship is the engine fuelling innovation, employment generation and economic growth, as definition is diverse most times they lead to the same opinion as Alvarez (2004). It is a means of solving increasing rate of unemployment, which is the major problem in Nigeria. It is also a worldwide concept in both developed and developing nations of the world. It is seen as a process of wealth creation which is innovative, adding values to the already existing one using time, effort and there is satisfaction of monetary and independence Forbe (2005) is of the opinion that entrepreneurship is an innovative approach enrolling youth into the labour market. It involving creating new things with new values for financial rewards.

An Entrepreneur

An Entrepreneur is one who is innovative, alert and recognizes opportunities. An Entrepreneur must dominant creative, component, confidence and has an orientation gap filler. i.e have the ability to perceive where the market falls and to develop new goods or process that the market demands but which are not currently been supplied (Ibe, 2012). Innovation means a new way of doing radical and revolutionary changes in thinking, products, process or organization inventions is different from innovation in that it is an idea made manifested successful. He/she requires Entrepreneurial skills needed for concept for creating wealth and values, these skills are both technical and managerial. Both must be merging for a successful business. And be able to run it successfully. Lejarranga and Pinded (2013). So it is a functional characteristic of entrepreneurs. Since confident of a person help to set up a business and adjust to failure with ability of ending tough times, looking at it as another open door opportunity. Experience entrepreneurs may have high successes,. These confidences are in what will happen to the business and his ability to cope in whatever condition he finds himself Douglas and Fitzsimmons (2005).

- When skills, abilities and behavioural pattern are possessed or put together for individuals or groups to succeed we say they are competent. These are need by individual to succeed in business. These have to do with personal traits and temperaments. And are needs for sustainability of the business Man et al (2002).
- In entrepreneurial orientation, processes decision and practices leading to new entry are involved. This invles innovation, practiveness, rsiks, taking, autonomy, and aggressive completion, others assumption that autonomy and competitive aggressiveness are involved.

Entrepreneurship in Nigeria

In Nigeria, entrepreneurship is still at the lowest level inspite of government and various development institutions. The institution of entrepreneur developments programme in curriculum of tertiary institutions by Nation University Commission, NUC Unachukwu (2009). Despite various enlighten companies as a way of unemployment in Nigeria; Nigeria is still the rating in Global Entrepreneur ship Development Index. It got improvement in 2012 with Niger (35%) even ahead of Demark (5%), Egypt (8%) and Israel (7%). The problem with Nigeria is that these activies cannot be translated to good or better (GEDI (Global entrepreneurship Devlopment Index) rating because Nigeria lack process, innovation etc. the statosquo is the same since time immemorial till now. GEDI is rated on 3EAs entrepreneurial attitudes and Abulities and Aspiration (GEDI, 2014). These are based on opportunities,

perception, opportunity to start up skill, technology; human capitals, product innovation and process innovation are the chief determinants of GEDI. This is high level of technological development have high GEDI ratings and their products are highly priced.

Entrepreneurship in chemistry

Chemistry entrepreneurship involves converting innovations on chemistry into marketable products for commercial gain. There is now a paradigm shift from conducting research that only land in academic journals but by patenting and commercializing them for economic gains. Putting science into business ventures which are successful. This is the major key to self-employed and employing other i.e combining both entrepreneurial skills and technical skills. This ensures knowledge-driven business and setting up new once so that science and knowledge play a key role for their development of the society (Odia and Odia 2013).

Why we Need Chemistry Entrepreneurship

There are various reasons why we need chemistry entrepreneurship:

- i) **To create employment:** We have so many graduates but not job for them. Only the government or private sectors cannot provide enough employment opportunities. These have created many problems. Increase, crime, rate, kidnapping, “yahoo boys and girls, political thuggery even spiritual decadence Ibel (2012). The only way out is entrepreneurship, either for small medium and large scale depending on your entrepreneurship skill and capital available.
- ii) **Economic Growth:** In the light of the economic recession and low oil revenue, if we must grow economically then entrepreneurship is a must. Nigeria economy is rising gradually now 20th largest in the world and the largest in Africa. It is the third fastest growing economy in the world.
- iii) **To reduce property:** One of the characteristics of poverty is hunger. One out of seven people go to bed hungry daily Kiggundy (2002).
- iv) **Social/civil unrest:** Nigerian has witness several civil/social unrest, these are engaged in by people who are not engaged in by venture or business that is profitable. This has defaced the image of Nigeria.-rating 148th out of 102 nations in 2013.

A Chemistry Entrepreneurship

Becoming an entrepreneur in chemistry involves taking risk, learning new skills etc. Basic understanding of cost, accounting and financial accounting and interpretation need to be acquired, so as the learn how to run business successfully and a new culture. He must understand the market, talk to people and build support network, do not overlook people, set up business, get investment profiles if it is available and conduct feasibility study. Above all know where to source for fund.

Barriers to Chemistry Entrepreneurship

Various factor militate against chemist entrepreneurship (Elemo, 2013) i) Low level of funding of research and development

- ii) There is apathy for Made-in-Nigeria goods/technologies and high task of Nigerian for foreign goofs including foreign technologies.
- iii) There is lack of financial capability by the scientist to develop the innovation to market place.
- iv) There is little or no link between academia and industry.
- v) Good and appropriate framework on protection of innovated products.

Conclusion

Entrepreneurship in chemistry is needful for attaining our economic goals and transformation agenda. Although, individuals cannot be forced, but should be encouraged. Research institutions and betiany institutions to bring solution and workable programmes to save us out of this economic doldrums. The

nation must solve economic problems using science and technology. What is needed entrepreneurship universities and adequate motivation of academic staffs and students,, to move laboratories product to market zones though innovations.

Recommendation

The following recommendations are the ways forward for chemistry entrepreneurship.

- Institutions should partner with relevant organization which are already established for sustainable economic development
- Developing nations should not only build prototype levels but make commercial models in partnership with the private sector.
- The economic aspect of projects even a the initial should be partners at every stage and get ready for commercialization at completion.
- Researchers should be commercialized even form tit conceptual stage.
- At every stage in chemistry courses entrepreneurship courses should be included.

References

- Aja-Okoria and Adali (2013). Achieving youth empowerment tough repositioning entrepreneurial education in Nigerian Universities. Problems and Prospect. *European Scientific Journal*, 9 (28), 113 – 132.
- Alvarez Sharon, A. B. J. (2004). Organizing Rent generation and appropriation towards a theory of the entrepreneurial firm. *Journal of Business Venturing*, 19(2): 621 – 635.
- Davis, P. Naughton, J and Rothwell, w. (2004). New roles and now competencies for the profession, training and development, 58 (4): 26 – 37.
- Elemo (2013). Entrepreneurship growth. An imperative for economic growth. Being the test of an invited paper presented at the workshop on entrepreneurship for Economic Development organized by industrial training fund (Nigeria). Lagos.
- Forbe, d. P. (2005. The effect of strategy decision making on entrepreneurial self-efficiency. *Entrepreneurship Theory and Practice*, 29 (5): 599 – 626.
- Grimaldi, R. and Von Tunzelmann, N. (2002), Assessing collaborative, precompetitive R and D projects: the case of the UK LNK scheme R and D management, 32, 165 – 183.
- Ibe, E. O. (2012). Re-engineering entrepreneurial education for employment and self productivity in Nigeria. *Knowledge Review*, 26(1): 1 – 6.
- Kiggundy, M. U. (2002). Entrepreneurs and entrepreneurship in African, What is known and what needs to be done. *Journal of Development Entrepreneurship*, 7(3) – 239 – 258.
- Lejarraga, J, and Pindard Lejarrage, M. (2013). Source of Information and entrepreneurial optionism paper to be presented at the 35th druid celebration conference 2013, Barcelona, Spain. June, 17 – 19.

- Man, T. W.Y, Lau, T nd Chan, K. F. (2002). The competitiveness of small and medium enterprises. A Conceptualization with focus on entrepreneurial concpetencies. *Journal of Business Venturing*,, 17 (2), 123 – 142.
- Odia, J. O. Odia,. A. A. (2013). Developing entrepreneurship skills and transformation challenges into opportunities in Nigeria. *Journal of Educational and Social Research*, 3(3): 1 – 10.
- Oyeku, O. M. Oduyoye, O. O. Elemo, G. N. Akindoju, A. P., Karimu, Unuigbe, K. O. (2015). Chemistry Entrepreneurship for small and Medium Enterprises Development. *Industrial Engineering Letters*, 5 (4): 1 – 11 www.jitte.org.
- Postiglione, G. (2005). Higher Education in China. Perils And promise for a new century. Harvers China Review, Song: 138 – 143.
- Sarwoke, E., Surachman and Hadividjojo, A. A. (2013). Entrepreneurship characteristics and competency as Determinant of business Performance in SMEs, *Journal of Business and Management*, 7 (3): 31 – 38.
- Unackwuku, g. O. (2009). Issues and challenges of development of Entrepreneurship in Nigerian. *African Research Review*, 3(5): 213 – 226.