

Industry – Universities Collaborations and the Challenges of Human Capital Development in Nigeria

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Abstract

The strategic position of human capital in the affairs of every nation or organization has become a recurring issue that will always be in the front burners of intellectual discourses. Human capital development has been identified as one of the major responsibilities of educational institutions especially, universities all over the world, Nigerian universities like other universities in other societies have endeavoured to continuously pursue the mandates of their establishment with the culminating point of training high level manpower for national growth and development. The task of succeeding in manpower training by universities and contributing to the overall growth and progress of the society can hardly be achieved without collaborating with industry. However, the level of industry-universities collaborations in Nigeria is bedeviled with several challenges ranging from lack of any specific government policy on collaborations, mutual suspicion from both ends, and distancing and aloofness existing between industry and universities. The paper employed descriptive design and various objectives put forward were qualitatively analysed. The findings revealed that industry-universities collaborations in Nigeria was weak and has affected the performance of the two strategic institutions. The effect of this gap in relationship has incontrovertibly affected the quality of human capital (graduates) who should have benefited from the collaborations. The paper concluded that industry-universities collaborations is very central to the production of quality human capital which will impinge on national growth and development and therefore, recommended that government should be proactive in formulating policies favourable to such collaborations and possibly legislate on industry-universities collaborations.

Keywords: *Industry-Universities Collaboration, Human Capital, Challenges, National Developments*

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Background to the Study

Industry–Universities collaborations (IUCs) have long been recognized in many advanced countries as a sinequanon in the veritable process of facilitating and engendering the dissemination and application of research outputs for composite socio-economic growth and development. Unarguably, universities are genuine and significant institutions that are generally acknowledged for their transformative powers especially, in the task of knowledge acquisition, dissemination and exteriorizing through research and its outcomes societal renewal, growth and development. Similarly, industry are the platforms by which wealth creation and production of goods and services which guarantee the living process of the citizens and impact on the general economic growth and development of the country. Hence, in the recent time, in spite of the cultural differences between industry and universities, the mutual benefits accruable from collaborations between these organizations have been receiving attention in the developing countries. (Oyebisi, Ilori and Nassar, 1996).

Universities from the late eighteenth century have been concerned with creation, dissemination and application of knowledge for society's sake (Clark, 1995). This explains the relevance of the traditional missions of establishment – teaching and research and later, community service-with an explicit role of production of highly skilled labour and research outputs to meet perceived economic needs. Ostensibly, the economic gamut or base of most countries is largely driven by industry – (organizations) that produce goods and services for the benefit of the citizens thereby lifting them from state of want or poverty to prosperity and promoting national economic growth and development. However, in the Nigerian context, industry-universities collaborations has not been accentuated and prioritized by the government and relevant stakeholders leading to a gap which unarguably created “suspicion” mistrust and distancing. This has impinged on the universities-industry performance and accounting for low standard and quality of human capital outputs (Fatmasari, 2017, Nwakpa, 2005, Chikwe, et al, 2015).

The paper will explore descriptive design and the identified objectives shall be qualitatively analyzed. The objectives shall include: examining the reasons and or necessity for collaboration between industry and universities, exploring the process of industry-universities collaborations, considering the challenges on the path of industry – universities collaborations, evaluating the successes of the collaborations, appraising the challenges and the consequence of industry – universities collaborations on human capital development and determining the quality and standards of outputs from the industries – university collaborations and their global competitiveness.

Industry – Universities Collaboration: Any Need?

Universities by their mandates of establishment are expected to perform three interrelated roles of teaching, research and community service. In this connection, Bramwell and Wolfes (2008) aver that “universities have emerged as central actors in the knowledge-based economy expected to play an active role in promoting technological change and innovation”. Hence, universities are expected to be custodians of knowledge that is imbued with transformative strength and finesse to promote national growth and development. Achieving this objective

necessarily requires the input of the industry that is expected to galvanize the translation of generated knowledge into tangible goods and services for the benefits of the citizens.

Generally, it is acknowledged that research is a core mission of universities and universities parade myriad of researchers whose penchant revolves around identifying societal problems and engaging in scientific procedures at hypothesizing solutions to such problems. In this connection Kiyanjui (2007:7) states that researchers are academic staff of the universities engaged to conduct research and are annually appraised on the level of research done. The findings and outputs of such research will be meaningless where industry fails or are apathetic at converting such research findings for commercialization purposes. In essence, it is through robust collaboration that the citizens and indeed the society can make progress. Supporting this claim, Souvik (2015) states that collaborations between industry and universities comes with a good opportunity for the industry to take advantage of outstanding faculty and scientists who are doing globally acclaimed research in sciences and other related areas of engineering, technology and innovation with anticipated high impact on the nation's economy. In essence, industry benefit enormously from cutting – edge research available from the universities. The benefits may come in the form of discovering new products, proposing expansion as an outcome of feasibility research and solving the problems of over-bloated overhead expenses that reduce profit. Also, the IUCs can promote corporate internship, work-study programmes, curriculum advisory boards, supply highly qualified human capital, guest lectureships and capstone courses and identifying gaps and opportunities for growth.

The usefulness of IUCs in the modern world is not unconnected with the need for innovation in today's business environment and the ambition of policymakers to commercialize academic knowledge for society's growth and prosperity. Although, research has devoted considerable efforts at finding the determinants of success for interfirm collaboration but less efforts has been on Industry – Universities collaboration (Robert and Roland, 2018). Meanwhile, Industry – Universities collaborations (IUCs) has been found to be very central to socio-economic, development of modern societies owing to its extensive and general involvement in almost all spheres of human needs and aspirations. IUCs have a long tradition in several countries worldwide as universities have been recognized for their crucial roles in facilitating economic growth in today's knowledge-based societies (Ankrah and Al-Tabba, 2015, Pinheiro et al, 2015). Also, policymakers and universities in today's world have taken the advantage of the popular “Third Missions” mantra which emphasizes “Service” from the end of the “gown” to “town” and therefore prioritizing commercialization of knowledge through continuing education programmes, patenting, technology transfer offices, science parks or incubators has invariably intensified the relevance of such collaborations (Marhl and Pausits, 2011).

Industry – Universities Collaborations (IUCs) therefore enables companies to profit from highly qualified human resources such as researchers and students from the universities, access to technology and knowledge and can use experience and research infrastructure to facilitate industrial growth, higher productivity and expansion. (Myoken, 2013, Barnes et al, 2002, Ankrah and Al-Tabba, 2015). In fact, some estimates confirmed that up to 10 percent of

new products or processes are based on the contributions of academic research (Bekkers and Bodas Freitas, 2008). Similarly, Universities benefits in return from additional funding, access to industry equipment or from licensing and patenting income, training of students in practical skills relevant to industry and provision of modern infrastructural needs that can aid teaching and research. Undoubtedly, collaborations with industry has become an inevitable part of university funding and the funds from international organizations and business enterprises for research and development (R & D) in the higher education sector represents a “significant source” in many countries (OECD, 2015).

It is however not the case that IUCs is insulated from challenges and such challenges could emanate from resources available for each partner in the collaboration process, hence, the need for certain kinds of resources can limit the number of potential partners (Ferru, 2010). Other potential challenges and limitations include: time, staff, environment (political, physical) and equipment. The level of trust and commitment of both partners as well as unrealistic expectations of partners can also impinge on the collaboration arrangement (Schofield, 2013, Barnes et al, 2002).

Industry – Universities Collaboration and Concern for Human Capital Development

There is no gainsaying the fact that the Industry – Universities collaborations (IUCs) is foregrounded and targeted at enhancing performance of industry as well as the universities thereby engendering economic growth and development. However, in this arrangement, the concern for human resources cannot be overemphasized. Essentially, universities have teaching, research and community service as core missions and, the missions are largely meant to produce high-level manpower for the use of all sectors/sections of the society. Corroborating this standpoint, Marimuthu et al, (2009) aver that human capital development is a key factor and getting wider attention with increasing globalization. Universities are producers of trained and equipped graduates in various disciplines culminating in the award of degrees which certifies the graduates as possessing the requisite knowledge and skills to function in the labour market. The industry on the other hand makes use of the universities outputs which IUCs efforts may have impacted upon them thereby becoming composite “knowledge carriers” Hence, in the opinion of Souvik (2015), trainees play very important roles in the system to establish the academic-industry relationships or collaborations. Moreover, industries are always fascinated by the brilliance of scholars, researchers and students who display high skills and competence in strategic areas that are relevant to their operations.

Essentially, both industry and universities are engaged in the program of human capital development especially, where quality collaborations exist. The cooperative efforts which allow the students opportunities of training through pedagogical method in the universities as well as receiving technical/technological and pragmatic training in the industry has the propensity of strengthening the students knowledge, skills and expertise thereby turning such students to “knowledge workers” in the labour market.

Ostensibly, industry and university collaborations (IUCs) promote human capital development and unarguably, organizations succeed on the strength of the quality of human capital. Confirming this assertion, Bontis, et al, (2019) explained the centrality of human factor in organizations as follows:

The combined intelligence, skills and expertise that gives the organization its distinctive character. The human elements of the organization are those that are capable of learning, changing, innovating and providing the creative thrust which if properly motivated can ensure the long run survival of the organization.

Therefore, creating latitude for acquisition of knowledge, skills and competence for individuals and groups to be subsequently used for productive purposes through education, trainings, workshops, conferences and others explains what human capital development is about (Armstrong, 2006). It is however acknowledged by Ven Den-Berg (2001) that countries that are in the forefront of technological advancement equally have the most educated population.

The Nigerian Experience on Industry-Universities Collaborations and Human Capital Development

The Nigerian state from independence in 1960 has pursued trenchantly the task of nation-building and development and, education has been recognized as a critical purveyor for the transformation of the industrial and economic landscape (Hassan, 2018). National Policy on Education (NPE) reviewed in 2014 specified the following signpost among others for Nigerian educational system.

- i. Contribute to the national development through a high level relevant manpower training.
- ii. Develop and inculcate proper values for the survival of the individual and the society and,
- iii. Acquire both the physical and intellectual skills which will enable individuals to be self-reliant and be useful members of the society.

Obviously, Nigerian educational system at all levels was designed to exude quality and standard as well as playing catalytic roles for socio-political, cultural and economic growth and development. In the specific case of university education, considerable efforts have been made by governments and other stakeholders to lift Nigerian university education from the quagmire and reposition it towards continental and world recognition (Ijaduola, 2018). This is not unconnected to the lofty and prestigious position of universities as enablers of development through the training of high-level manpower who subsequently contribute their acquired skills, and knowledgeable to economic vitality, social and political consciousness and global competitiveness through scholarship, research and innovation. Achieving all these entails maximizing the opportunities offered by the industry as critical stakeholders in the nation's development agenda (Oyesiku, 2010).

Essentially, industry-universities collaborations in Nigeria has different perspectives and expectations which created gap between the two and this include according to Dambatta (2013) that universities:

- a. Strives for maximum solution to maximize their recognition, whereas industry seeks minimum solution to minimize their risk
- b. Interested in creating new solution having high innovation rate, whereas industry prefers proven solutions having low risk
- c. Has long-range perspective whereas industry thinks in terms of short-range goals
- d. Is striving for peer's recognition whereas the industry is striving to survive.

It should be noted that collaborations between industry and academia have different objectives, scopes and are based on institutional arrangements. Such collaborations could be more or less intense and may focus on training and research activities, it may be formal or informal and could emerge from formal equity partnership of contracts research projects, patents, licensing, publications and interactions in conferences, lectures and expert groups among others (Dambatta 2015).

Table 1: Benefits of Academy-Industry Collaborations

Academia	Industry
Enriching teaching and research	Sourcing latest technological advances from new ideas
Funding/Financial resources	Laboratory usage
Source of knowledge and empirical data	Personal resources/cost savings
Competing favourably well	Personnel resources/cost savings
Building on excellence and reputation	Risk sharing for basic research
Job offers for graduates	Stabilizing long term research projects
Complementing their resource base	Recruitments

Source: Dambatta, (2015)

The position of Robert and Roland (2018) on the motivating factors for industry-universities collaborations is sacrosanct. Notably, companies benefiting from highly qualified human resources (researchers and students), (Myoken, 2013), access to technology and knowledge (Bannes et al, 2002), availability of expensive research infrastructure (Ankrah and Al-Tabba, 2015) and on the part of the universities in return benefiting from additional funding, access to industrial equipment and technical expertise for the training of students, periodic income from patenting and licencing and others cannot be said to be in the front burners in Nigeria. This obviously may have accounted for problem of quality and standard of outputs at both ends-industry and universities.

Understandably, industry-universities collaborations should benefit, enhance and promote the activities of both partners. Industrial production should expand leading to more products, more recognition, goodwill and profit. Also, universities should enjoy more funding, equipment and infrastructure, production of quality, skillful and competent products (graduates) that are globally competitive as composite “knowledge workers” in any organization where they may find themselves. Apparently, this lack of spirit of reciprocity must have contributed to the weak collaborations between industries and universities and, this may have accounted for the low quality and standard of human capital outputs in Nigerian, universities as well as, that of goods and services in the case of industry in Nigeria.

Challenge of Human Capital Development under a Weak Industry-Universities Collaborations (IUCs)

The recognition of human capital as an irreducible factor in wealth creation process in any nation or organization cannot be overemphasized. Industry-universities collaborations are known to engender better performance from both sides of the divide (Barnes et al, 2012). Instructively, where there exists a weak or refracted collaborations between the industry and universities as prevalent in Nigeria, human capital (outputs) from both ends are affected leading to a diminished standard of the human capital (Aluko and Aluko, 2012).

Apparently, the challenges emanating from funding, state-of-the-art equipment and infrastructure, manpower and many others have affected the standard of outputs of most of the Nigerian universities as cutting-edge research are hardly pursued because of lack of funding, weak infrastructural support among others, (Jega, 2007, Ekpoh and Edet 2017). Infact, former President Goodluck Jonathan summed up the problem of Africa and indeed Nigeria in the area of human capital development during the 50th Independence Anniversary celebration speech (The Punch, October 2, 2010).

Unfortunately the underutilization of the existing capacity and the loss of same through brain drain have made Africa to remain underdeveloped. The countries of Africa constitute most of the poorest countries in the world as they show the lowest indicators of socio-economic development (World Bank, 1998). While the level of poverty in the continent has been attributed to many interrelated causes, by different social sciences researchers and other scholars, the low level of capacity building indicators has in the past decades begun to emerge in research as a major cause of Africa's underdevelopment. It is also argued that the recent rapid economic development of the countries of southeast Asia in the latter path of the 20th century has been due largely to their deliberate policy on capacity building through investment in human capital and institutional building.

Despite the prevalence of several other factors impinging on human capital development in Nigeria, the impact of the weak industry-universities collaboration is also extensive (Ekanem, 2018). The effect has resonated on the products from Nigerian universities. In a specific term, the challenge of quality training which robust and symbiotic relationships between industry and universities would have offered has regrettably been at the lowest ebb causing the production of “half-baked” unskillful and somewhat incompetent outputs. (Ekpoh and Edet, 2017, Oyesiku, 2010). This deplorable situation has caused skills-gap and accentuated the level of unemployment in Nigeria. Consequently, industry and employers of labour became disenchanted with the quality and standard of universities products believing that possession of a degree on paper does not have a correlation with the skills and performance of the graduates. Arguing on this Emeasoba (2017) affirms that the deficit came from the limited (or none at all) relationships and collaborations between industry and universities in Nigeria.

Moreover, it is evident that none of the 174 universities in Nigeria could make the list of the top 1000 universities in the world (Webometrics, 2019). This may not be unconnected to the quality of the outputs (human capital) from these universities. Arguing on the same line,

Oguntuase (2003) and Sodipo (2014) aver that the graduates of Nigerian universities often put up dismal performance during interview for employment because they lack requisite “soft” skills that are trending in the 21st century. Modern employers are at home with candidates with technical as well as interpersonal skills, knowledge skills (IT, numerical, critical thinking) which espouse creativity, innovation, resourcefulness and vocation skills with enough hand-on experience and problem-solving skills that can add value to the company or organization (Sodipo, 2014).

Conclusion

It is apparent that national development is inextricably connected to the pursuit of excellence in the training of human resource of any country. Such human capital development concern affects to a large extent the status and level of development of such a society. Since it is indisputable that universities are established to be storehouses of knowledge and developers of human capital they are expected to fulfill this mandate by liberalising their system to collaborate with industry that could be regarded as the propellers of the economy and users for commercialization purposes the outcomes of “knowledge”, of research and human resource from the universities. Such collaborations will impact positively on the lots of both partners-industry-universities and by this, the overriding effect comes on the nation thereby facilitating economic growth and development. Therefore Industry-Universities collaborations could be regarded as very essential to human capital development and indeed national growth and development.

Recommendation

This paper recommends that the Nigerian nation should through its government put in place dynamic policies of action in the areas of increase in funding for education generally and specifically higher education, encourage cutting-edge research, motivate teachers and researchers and foster industry-universities collaborations (IUCs) through appropriate legislation which will unarguably impact positively on human capital development.

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