

Multinational Corporations, Knowledge and Technology Transfer in Nigeria: An examination of Etisalat Telecommunications Engineering Postgraduate Programme (ETEPP)

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Abstract: This study presents a case study on good practice regarding how Multinational Corporations (Etisalat) have contributed towards skills development in Nigeria towards the achievement of Sustainable Development Goals (SDG). The study examines how Etisalat Telecommunications Engineering Postgraduate Programme (ETEPP) has provided the needed training for academics and practitioners in the telecommunication sector through knowledge & technology transfer. A qualitative method of data collection and analysis was used for the study. Interviews were conducted and NVivo software was utilized in transcription, coding, and analysis of data from the interview conducted. This was supported with secondary data which includes journals, relevant books, periodicals, newspaper reports, internet sources, government releases, and pronouncement the findings of the study show that the ETEPP led to the creation of the first department of telecommunication engineering in Nigeria. In addition to this Etisalat in collaboration with Huawei technologies provided training and capacity building for Nigerians in order to ensure the sustainability of the program. Unlike what was obtainable before the ETEPP, telecommunication engineering training was basically done theoretically; the ETEPP provided hands-on training and provided trainees with a better understanding of the subject matter. This will no doubt go a long way in helping youths get skills needed for a technology driven world, thereby assisting Nigeria make considerable efforts towards SDGs.

Keywords: Multinational Corporations, Technology Transfer, Knowledge Transfer, Postgraduate, Etisalat.

I. INTRODUCTION

Scholars like Adams Smith, Ricardo, Bent, who belong to the liberal school posit that state should not interfere with the economic transaction but instead, state should encourage the exchange of goods and service and remove trade barriers to promote the free flow of foreign direct investment. By these measures, world scarce resource are best utilized and it will be to the benefit of both the citizenry and state (Gilberthope and Banks 2012). Furthermore, the liberalist and neo-liberalist point out that by removing trade barriers and limiting government intervention in the market, it would pave the way for MNCs to facilitate foreign direct investments (FDI) in

developing countries which will in turn, benefit both the state and citizenry (Epstein, 2011). Most nation-state in the third world countries largely depend on FDI from MNCs investments to aid developmental projects to finance budget and make provision for basic amenities like: road, education, hospital and provision of other services. It is pertinent to note that MNCs are seen as potential driver of socio-economic development through its Corporate Social Responsibility (CSR), provision of capital inflow for the state, employment opportunities for the populace, transfer of knowledge and technology, payment of taxes and promotion of industrialization among others. While others argue that MNCs has largely been detrimental to developing countries regarding development due to adverse environmental challenges associated with activities (; Humphrey, Spratt & Thorpe, 2014).

There is no doubt that knowledge and technology transfer plays a key role in the transformations and growth of developing countries. A moderate example is Costa Rica, this country moved from exporting Banana to semiconductor chips and medical equipment. This was achieved through the attraction of a Multinational Corporations- Intel Corporations, which is the world second valued and second largest semiconductor chip manufacturing in the world. Costa Rica benefited from the Research and Development of Intel Corporations which had a spill over to other sectors of the economy and society. As a result of the success recorded by Intel Corporation, MNCs such as Microsoft and Cisco followed suits (Monge-González & González-Alvarado, 2007; Monge-González, 2017; Bailey & Warby, 2019; Gereffi, Frederick, & Bamber, 2019; Abousleiman, 2019).

Corporations, mostly invest in education by inculcating it into their CSR program through technology transfer and support for multilateral international bodies who work in the education sector. A corporation's investment in education takes different forms which include: direct programming, education training, product development, infrastructure and policy change. The desired impact of this different

interventions is always aimed at increasing access to educational opportunity, improving learning outcome, strengthening education system, development of the skilled workforce, community, economic and social development. The targeted beneficiaries are usually children, adult learners, youth, and educators (Strategy, 2011). MNCs over the world are known for their emphasis on research and development (Worasinchai & Bechina, 2010) which is usually domiciled in higher institutions of learning. Due to the expensive nature of conducting researches, most tertiary institutions usually source for grants from most private-sector players. Research and development also fosters effective teaching and learning. Also, the tertiary institutions at most, benefits from MNCs' transfer of knowledge and technology which could serve as a means of reinforcement of the knowledge system of the host country and as a catalyst for national development.

1.1 Etisalat Telecommunications Engineering Postgraduate Programme (ETEPP): An Overview

Considering the pivotal role of information and telecommunication knowledge in the globalised world, none of the Nigerian universities was offering an undergraduate/postgraduate program in telecommunication engineering. This made Etisalat inaugurate the ETEP on 16th May 2013, which is now situated at Ahmadu Bello University Zaria. The ETEP is a strategic initiative in partnership with Etisalat Academy, Plymouth University, the United Kingdom and Huawei. MSc in Telecommunication Engineering is aimed at providing Nigerians with knowledge of Telecommunications Engineering which include, but not limited to: GSM network design, Basic Value-Added Service (VAS) operation and maintenance, telecommunication network security, understanding of Internet Protocol Multi-Protocol Label Switching (IP/MPLS) design and topology, Long Term Evolution (LTE) network architecture, and fault management. Apart from the theoretical aspect of the program which is learnt at Ahmadu Bello University, Zaria, students are also opportune to get a month internship with Etisalat technical team in Abuja in order to enhance what they have learnt via practical session with field engineers. Students are also trained at Etisalat Academy at the United Arab Emirates, on topics related to telecommunication engineering. The company has also paid full subscription to e-resources of Institute of Electrical and Electronic Engineers (IEEE) which is the largest technical professional organization which creates international standards for telecommunications, information technology, and power generation. Also, Huawei Technologies are partnered to provide the necessary equipment for the telecommunication engineering laboratory situated at Department of Electrical, Computer and Telecommunications Engineering, Ahmadu Bello University, Zaria. For Sustainability, Etisalat has partnered with Plymouth University and the United Kingdom to offer full scholarship and sponsorship to lecturers from Ahmadu University, Zaria, for PhD Studies. It is aimed at empowering the local lecturers to learn cutting-edge competence in the study of

telecommunication engineering. One of the beneficiaries of the PhD studies was said to have conducted a cutting-edge finding in the field of telecommunication engineering which has led to accolade from Plymouth University (Saidu, 2015; Ubakuboh, 2017).

Hence, this paper showcases how MNC (Etisalat Telecommunication) has contributed to skill development in Nigeria's telecommunication sector through knowledge and technology transfer for the purpose of ensuring efficiency and improvement of productivity.

II. LITERATURE REVIEW

2.1 Conceptual Review Multinational Corporations

MNCs are also referred to as Multinational Enterprise, Transnational Corporation (UNCTAD, 2016) and Global Companies (Mikler, 2013). This research shall be utilising, Multinational Enterprise (MNE), Transnational Companies (TNCs), and Global Companies interchangeably. It would hereafter be referred to as MNCs. An MNC is regarded as an enterprise comprising entities in more than one country, which operates under a system of decision-making that permits coherent policies and a common strategy in particular, to share knowledge, resources, and responsibilities with the others (Gilpin, 2001; UNCTAD, 2016). MNCs are big businesses usually with a global influence (Kim, 2000). One important feature of MNCs is that there is always a parent company and subsidiaries in other parts of the world with distinct and coordinated financial, managerial and technical resources. MNCs can spur development in developing countries by providing opportunities to improve the standard of living, economic growth, and facilitate international cooperation. Usually, this is achieved through the investments (FDI) in that country. MNCs engage in FDI usually in other countries outside their countries of origin and they own a large share of other value-added services in the host country. (Dunning & Lundan 2008; Gilpin, 2001). The term MNC is used to identify firms that have extensive involvement in international business and engage in FDI. MNCs own and control value-adding activities in more than one country that are usually coordinated from central headquarters (Griffin & Pustay, 2005).

Multinational Corporations, Knowledge and Technology Transfer: The Nexus.

The activities of Multinational Corporations (MNCs) in developing countries are viewed with scepticism. This is because MNCs are referred to as an agent of international capitalism which aims at profit making and exploitation of natural and human resources (Gilberthope and Banks 2012).

Most nation-state in the third world countries largely depend on FDI from MNCs investments to aid developmental projects to finance budget and make provision for basic amenities like: road, education, hospital and provision of other services. It is pertinent to note that MNCs are seen as potential driver of socio-economic development through its Corporate Social

Responsibility (CSR), provision of capital inflow for the state, employment opportunities for the populace, transfer of technology, payment of taxes and promotion of industrialization among others. While others argue that MNCs has largely been detrimental to developing countries regarding development due to adverse environmental challenges associated with activities (Gilberthope and Banks 2012; Humphrey, Spratt & Thorpe, 2014). The negativity associated with the operations of MNCs and the need for them to be socially responsible to have good relations with the state and community where they operate resulted in efforts to draw up international instruments for regulating their conduct and defining the terms of their relations with host countries, mainly in the developing world. These social and labour issues led to the adoption of “*Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy (MNE Declaration)*” (International Labour Organization, 2001).

The foundation for the MNCs knowledge and technology transfer was indeed laid by the tripartite declaration which stated that

“1. Multinational enterprises play an important part in the economies of most countries and in international economic relations. This is of increasing interest to governments as well as to employers and workers and their respective organizations. Through international direct investment and other means such enterprises can bring substantial benefits to home and host countries by contributing to the more efficient utilization of capital, technology and labour. Within the framework of development policies established by governments, they can also make an important contribution to the promotion of economic and social welfare; to the improvement of living standards and the satisfaction of basic needs; to the creation of employment opportunities, both directly and indirectly; and to the enjoyment of basic human rights, including freedom of association, throughout the world...”

29. Governments, in cooperation with all the parties concerned, should develop national policies for vocational training and guidance, closely linked to employment. This is the framework within which multinational enterprises should pursue their training policies.

30. In their operations, multinational enterprises should ensure that relevant training is provided for all levels of their employees in the host country, as appropriate, to meet the needs of the corporation as well as the development policies of the country. Such training should, to the extent possible, develop generally useful skills and promote career opportunities. This responsibility should be carried out, where appropriate, in cooperation with the authorities of the country, employers’ and workers’ organizations and the competent local, national or international institutions.

31. Multinational enterprises operating in developing countries should participate, along with national enterprises, in programmes, including special funds, encouraged by host governments and supported by employers’ and workers’ organizations. These programmes should have the aim of encouraging skills development and training as well as providing vocational guidance, and should be jointly administered by the parties which support them. Wherever practicable, multinational enterprises should make the services of skilled personnel available to help in training programmes organized by governments as part of a contribution to national development.

32. Multinational enterprises, with the cooperation of governments and to the extent consistent with the efficient operation of the enterprise, should afford opportunities within the corporation as a whole to broaden the experience of local management in suitable fields such as industrial relations.” (ILO 2001), p. 6).

The quoted provision places emphasis on the need for MNCs to prioritize training and knowledge transfer. MNCs transfer technology from parent companies to affiliates. Also the spillover effect includes the training of local employees with the company. This type of training includes simple industrial operation to technically advanced training and top-level managers. This provides an avenue for host countries and workers to learn the rubrics of technological education and also benefit from these corporations. With the consideration that public education system in most developing countries is somewhat weak compared to what is obtainable in developed climes, the training of workers in host countries provides an opportunity for improved knowledge of technological materials brought in by MNCs (Blomström & Kokko, 1998).

According to a report by PwC (2016) which surveys challenges faced by CEO of corporations in Africa, the number one problem identified was a lack of trained or skilled personnel which can be traced to the ineffective tertiary education system; to arrest the ugly trend. MNCs invest in tertiary education for many reasons which include, but not limited to research and development, the provision of skilled labours for the corporation and knowledge and technology transfer. Etisalat has made some certain social investments in tertiary education which was asserted by various informants.

2.2 Theoretical Discourse

The discourse of MNCs in the political economy can be viewed from two theoretical positions: the Marxist and Liberal schools of thought. The Marxist posits that MNC is an extension of imperialism with roots in colonialism which aim is the exploitation of developing countries by continuous subjugation and dependence on the global north (Gilpin, 2014). While scholars like Adams Smith, Ricardo, Bent, who belong to the liberal school posit that state should not interfere with the economic transaction but instead, state should encourage the exchange of goods and service and remove

trade barriers to promote the free flow of foreign direct investment. By these measures, world scarce resource will be best utilized and it will be to the benefit of both the citizenry and state. Furthermore, the liberalist and neo-liberalist point out that by removing trade barriers and limiting government intervention in the market, it would pave the way for MNCs to facilitate foreign direct investments (FDI) in developing countries which will in turn, benefit both the state and citizenry (Epstein, 2011).

III. METHODOLOGY

The research work made use of qualitative method through the conduct of interviews and in addition, secondary sources of data from journals, relevant books, periodicals, newspapers reports, internet sources, government releases, and corporate social responsibility reports of Etisalat telecommunications.

IV. ANALYSIS AND FINDINGS

MNCs around the world are known as a bastion for transfer of technology and innovation to developing countries and most host countries where their operations are based (Chatterji, 2016; Dunning, 2013; Wahab, Rose & Osman, 2012). This transfer of technology takes different forms which include; induction of trained managers and workers by MNCs, initiation of research grants in local universities to promote research in technology and innovation.

Hopkins (2012) agrees that MNCs can aid education development of host countries through improvement of technology education through research and development (R&D) which will improve skills and knowledge of citizens of host countries which in turn leads to improvement in the quality of life for the citizens. Improvement in technology is viewed as one of the important tools of sustainable development. This could result in the origination of new solutions to socio economic needs of host countries (Rexwhite-Enakrire & Onyenania, 2007).

An informant gave his view on academic and socio economic influence of ETTEP by Etisalat,

Training somebody in engineering without practical is a waste of time because engineering is the practical-oriented course. These people came here and noticed that we do not have practical facilities, they supplied that. As far as academic is a concern, they are trying to eradicate the problem. If we have practical facilities, the next is to get those who can use it to solve the problem. Their intervention has a very significant academic impact. The Programme is based in ABU, but it has national impact because whatever is available in the school, other universities in the country can benefit. If you train people and give them all the practical aspects they need, you are empowering them socioeconomically. They can be financially stable and assist others by setting up business or work in corporate organisations. Economically, their intervention is very significant (ATIR1).

This gives credence to the fact the transfer of knowledge and technology through training of Nigerians in the field of telecommunications engineering have brought about improvement in technological education in the country which was not available earlier as an informant assert *“Of 50 universities in Nigeria running postgraduate programs, nine science and technology institutions in the country, none has introduced a Master Program in Telecommunication Engineering considering the expanding role of telecommunication in Nigeria’s economy” (ATIR1)*, however, things have changed since Etisalat in collaboration with ABU Zaria, launched the ETTEP.

The ETTEP was designed to bridge the knowledge gap especially with regards to telecommunication technology, CPR1 gave an overview of training opportunities offered to Nigerians

We have spoken now about the telecom engineering which we do in conjunction with ABU. And we also thought that the smart thing to do is train the trainer. Four PhD lecturers were sponsored by Plymouth University, our partner in the UK. There are currently in the UK for the last three years. The first of the lectures is about to graduate. He has done some groundbreaking works in this area of engineering, and we look forward to him coming back and obviously being celebrated. Moreover, of course, others are doing very well and will soon finish. We expect that there will be four teachers in the faculty that have PhDs in the telecom engineering field and will continue to impact the knowledge in ABU and other universities. That is one; the other is done in conjunction with Etisalat Academy in the UAE. Part of the program is; the lecturers were sponsored by a program in the UK while we sent some of the MSc students to UAE for study. The lecturers from the UAE also come here to teach (CPR1).

On the importance of ETTEP an informant stated that *“The ETTEP has bridged the gap between the classroom telecommunications and practical aspect of it. This makes us appreciate what is being learned in the class. Beyond the I.T we did after the course work, the three best students were sent to Etisalat Academy in Dubai where we learned how to install cyber optic cables” (ATIR2).*

On the relevance of ETTEP to improve education and industry innovation and infrastructure as enshrined in the SDG4 and SDG9, CPR2 sums it up saying;

We are halfway through the first year of implementation of the 17 SDGs and 169 specific targets. Is it too early to evaluate our progress? I think not. Work is ongoing, at government and private levels; but more is needed. Specifically, a public framework is required to guide and track action; so, we are all working in tandem and not at cross purposes. Through the Etisalat Telecommunications Engineering Postgraduate Program, we are contributing to delivery on SDG4 - Quality Education; and SDG9 - Industry, Innovation and Infrastructure (CPR2)

Aside the ETTEP, another informant asserted that the Etisalat Merit award scholarship

Have helped me in two ways, firstly Academics, on a sincere note you cannot call yourself an engineering student by just browsing through books every day without having an interface. There are this micro board controller and single board computers which go for about \$35 and \$50 per each, basically, I used the scholarship to get myself such equipment, and some embedded system walls popular thing call internet offence now. I have to appreciate Etisalat because they have made a very strong impact on my education especially concerning engineering education (BGR1).

In the case of the tertiary intuitions, it has provided an opportunity for the study of telecommunication engineering which was hitherto not available in the country. There is also a component of the ETTEP which serves as an avenue for technology transfer which is a common feature of most MNCs operating in host countries. This research is in concert with the work of Monge-González & González-Alvarado, 2007; Sönmez, 2013; Jamali, 2010 who have all agreed that through social intervention in education and transfer of technology, MNCs play a major role in the improvement and quality of education. The study deduced that through training of Nigerians, Etisalat is transferring technology to the country. Also the corporation has invested in research and development in the field of telecommunications engineering. Scholars like Worasinchai & Bechina 2010; Dine-Rabeh 2015; Narula & Guimón, 2009; Sönmez 2013, have all argued that the improvement in technology and innovation by MNCs, serve the dual purpose of providing skilled workforce for their operations and also improves the educational standard of their host countries.

V. CONCLUSION

The study has investigated the role of Multinational Corporations in knowledge and technology transfer in Nigeria. The study focused on the efforts of Etisalat Telecommunication in the provision and improvement of the knowledge of telecommunications in Nigeria tertiary institutions in order to provide needed manpower and capacity to effectively cater for needs of the country in telecommunications. No doubt, the prominence telecommunications in the scheme of things in today's world can never be underestimated. In fact, the trade war between United States of America and China has to do with telecommunications. Hence, from the findings of the research shows that the Etisalat Telecommunications Engineering Postgraduate Programme (ETEPP) has made considerable impact in the Nigeria's telecommunication sector particularly in the preparation of the next generation in telecommunication engineering. This is evident in the support by Etisalat in the creation of a department of telecommunication engineering-first of its kind in the country. It is also worthy of note that informants responses shows that the knowledge and

technology transfer by Etisalat telecommunications has provided the beneficiaries and by extension Nigeria the needed expertise towards the development of its telecommunications sector which no doubt has spiral effects on other sector of the country such as education, banking, health, security among others.

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