Globalization and Industry 4.0: A Theoretical Review of Their Impact on Training and Retraining of Employees in Developing and Underdeveloped Countries

WOBODO, Chinonye Chris[1], Dr. L.I. Nwaeke[2]

[1]Doctoral Student, Department of Management, Faculty of Management Sciences, Rivers State University, Port Harcourt, Nigeria

[2]Lecturer, Department of Management, Faculty of Management Sciences, Rivers State University, Port Harcourt, Nigeria

Abstract:- **The state of business operations' method is changing rapidly and assuming a new dimension and organizations that fail to synchronize these changes with potent strategies risk speedy entropy. Technology is changing the world and its impact on virtually every aspect of human life is unfathomable. Therefore this paper looked at how globalization and industry 4.0 will affect training and retraining of employees in the developed and underdeveloped countries. After careful extant literature review, it proved that both globalization and industry 4.0 are phenomena driven by increased growth of technology in the West over the years. However, the study showed that developing and underdeveloped nations have not fared well in the midst of globalization movement as the losses incurred has exceeded the much promised benefits and a new era is about to be born which will entirely change manufacturing dynamics. In this circumstance, we deduced that for organizations operating in developing and underdeveloped countries to transit to the new era, training and retraining of their workforce must be on top gear so as to upscale their skills to meet the new challenges ahead. In line with that we recommend that organizations operating in developing and underdeveloped world should be conscious of the revolutionary and evolutionary nature of global business environments and ensure that they adapt appropriately without losing sight of the imperialistic tendencies of the West; that before the adoption of industry 4.0 system, there is need for a proper identification of the required skills set before following it up with adequate training and retraining programs to upscale their skills in that direction and also reduce the tendency for resistance and failure.**

Key Words: **Globalization, industry 4.0, employee training, retraining, developing nations, underdeveloped nations**

I. INTRODUCTION

Organizational theory literature revealed that in every business concern, the workers or employees remain the life blood of the organization. This is because the success of the organization, among other things lies within their effort and commitment. The salient role they play towards the organization's overall performance cannot be miscalculated. They can make the organization if effectively managed and utilized; as well as mar the organization's mission and objectives if taken for granted. Consequently, equipping them with current knowledge of the industry and tasks specific dynamics through effective training and retraining courses becomes a strategic necessity for a continuous organizational survival and performance expectation in a competitive and fast changing world of business as occasioned by technological advancements and globalization phenomenon.

Just as Thom-Otuya and Ubolum (1999) stated that in view of the growing responsibilities that employees face to deliver, operate machines, man job process in the production line, expose their health to harmful objects, chemicals and equipment; they doubtlessly require both formal and informal training and retraining to give them new factory and production process orientation. Harris as cited in Armstrong (2006) stated that learning is the heart of productive activity while Drucker (1994) posited that the education and skills of the workforce has become the key competitive weapon for the 21st century. He further asserted that knowledge has become the critical resource in wealth creation of society in this post-industrial era. Also Moten (1999) as cited in Wobodo, Asawo and Asawo (2018) confirmed this argument when they hypothesized that the resilience of employees in the face of rapid changing work process is tied to the current shift in the foundation of industrial economy from natural resources to intellectual asset.

However, the role of globalization as aided by technology in the determination of the nature and frequencies of training and retraining programs in modern business operations cannot be ignored. This is because globalization rules the game in this current economic dispensation. Ohiorhenuan (1998), Mowlana (1998) and Grieco and Holmes (1999) respectively observed that it is a positive and powerful force for improved material well-being of humankind, that would aid developing countries to create better economic environments to leapfrog into the information age; improve their access to technology; speed development and enhance global harmony. Indeed, its processes affect and are affected by businesses and work organizations, economics, politics, technology, and social-

cultural environments. In fact, critics of this phenomenon suggest that it tends to undermine wages in developed countries, exploits employees in poverty stricken countries and offers Multinational Corporation with too much power which cannot be ignored without a serious effect.

Furthermore, outside the raving influence of the new economic order (globalization) in moderating the dynamics of every human endeavor as promulgated by the Westerners for their egocentric and to the chronic disadvantage of the developing and under-developed economies, there is yet another phenomenon that is being championed as the last resort for the world's industrial effectiveness and efficiency-the Industry 4.0. The main focus of this school of thought is to digitalize and affect a wide range of changes in manufacturing patterns such as automation of the production process, transmission of data about a product as it passes through the manufacturing chain, and the use of configurable robots that will allow different products to be produced in the same production facility. In this circumstance, since the dynamic nature of technology brings about intermittent obsolescence of employee skills and knowledge (Nwachukwu, 2000) Lewis (1997) has emphasized that training and retraining strategies are antecedents of a progressive employee service quality delivery. However, owing to the influence of globalization and industry 4.0 in the current economic order, it is the thrust of this paper to theoretically evaluate how their over bearing presence has influenced developing and under-developed nations' organizations approach and policy on their employee training and retraining paradigm.

II. THE MEANING AND NATURE OF GLOBALIZATION

Globalization - the world's new economic order and the most pressing issue of our time (Stiglizt, 2002) has indeed come to stay. Its unabated wind of change of status quo still blows all the way from the West across national frontiers with little or no effort made by the developing and under-developed world to resist its discontents. According to Onodugo (2012) observation there are superfluity of existing chunk of literature as to the meaning and implication of globalization on all facets of human endeavors be it politically, economically, technologically and socio-culturally. According to Aina and Reuben (2014) globalization is basically concerned with a process of gradual integration of human endeavors across national boundaries. Akindele, Gidado and Olaopo (2002) viewed it as the pattern of consolidation of economic, political, social and cultural relationships across the countries of the world. Furthermore, Fafowora (1998) opined that it encompasses the increasing breakdown of artificial trade bottlenecks and the improvement of world trade.

The emergence of globalization has brought about enormous negative consequences and discontents to the developing and under-developed countries than the much promised and preached economic prosperity and stability by the West. The testimony of the former president of France, Jacques Chirac in

Stiglizt (2002) that "globalization is not making life any better for those most in need of its promise" confirms this claim. But then let's start from the positive perspective, globalization has to an extent brought about some level of benefits to the developing countries for instance to Nigeria, South Africa, and other under-developed countries like Ethiopia ,Benin, Angola, Haiti,Yemen etc. According to Stiglitz (2002) the opening of international trade has facilitated rapid growth of some countries' economies much more than they will have grown without globalization. Using Nigeria as case in point, it is no doubt that Nigeria has benefited immensely from globalization; hence it depends largely on importation of foreign goods to satisfy the daily needs of her people. And as a mono-economy driven state, the viability of her economy is also built on the generosity of globalization through its large export of crude oil to other parts of the world on the basis of factor endowment.

Through globalization, developing and under-developed countries have been able to have access to foreign aids via international agencies like the Work Bank, International Monetary Fund (IMF), United Nations (UN), and World Health Organization (WHO). However, these aids will usually come in the form of peace keeping mission in times of war, provision of loans and grants in times of economic depression, transfer of selected technological competences for industrial growth and health promotion programs. Yusoff (2011) also lent his voice on the ongoing debate on the benefit of globalization; he observed that organizationally all over world, globalization results in greater efficiency in productivity, quality products and at a cost effective prices. Specifically, he stated that for the developing and underdeveloped countries, it brings about inflow of funds, management skills, new technology and smart partnership.

On the negative perspective globalization has brought more harm to developing and under-developed countries in the midst of its ubiquitous benefit. Wohlcke (1993) succinctly described globalization as a form of frame-up for developing and underdeveloped nations. Otokhine (2000) warned that globalization is a form cultural imperialism in disguise which seeks to dominate the developing and underdeveloped minds. Stiglitz (2002) also stated that the critics of globalization have severally accused the West of hypocritical mindset hence; they succeeded in cajoling the developing and underdeveloped nations into eliminating their own artificial barriers to flows of goods and services while they craftily retained theirs. This is because globalization is dominantly designed to achieve the sole interests and needs of the developed world (Grieco & Holmes, 1999). Khors (2000), and Jenkins, Lee and Rodgers (2007) also confirmed this argument when they stated that the unequal manifestation of the gains of globalization informs the view that the West benefits disproportionately; thereby engendering economic losses, social dislocation and growing inequalities in the rest of the world.

It therefore suggests that the implication of this act of retained artificial barriers is to deny the developing and underdeveloped nations the liberty to export their agricultural produce which will have earned them export income that would further enhance their development. Scholars and critics of globalization noted that poverty reduction was one of the salient aspects of globalization agenda decades ago. But surprisingly instead of the much promised poverty alleviation the reverse is the case, because across Africa hunger is still much in the land without any objective commitment by the missionaries of globalization (World Bank, International Monetary Fund and United Nations) to salvage the situation which is indeed a mark of hypocrisy. No wonder, British journalist, Lloyd (2001) in his perspective called it an oppressive and impoverishing force designed to undermine the developing and underdeveloped countries. In fact, we must say that the West is undisputedly the architect of Africa's' dilemma even although we have still refused to grow up upon discovery of their dubious and egocentric mindset.

III. THE CONCEPT OF INDUSTRY 4.0

The term industry 4.0 has become a buzzword in modern industrial society like the West and its wave of change of status quo is blowing across the globe such that many are beginning to assume the West is at the verge of casting another industrial revolution on world. But they are certainly right about their assumption. Acatech (2013) argued that the first three industrial revolutions came into being as a result of the need for mechanization, electrification and information technology and today the emergence of the "Internet of Things" is steering in a new era in the chronicle of industrial revolution- the fourth revolution. The first phase of industrial revolution started around 1750 -1840 and this phase marked the beginning of the use of mechanical production systems with the application of the power of water steam engine. According to Newton (2013) this period witnessed an unbelievable growth and industrial development .Its implication was that it altered the pattern of production processes where machine such as tractor had to perform work that were originally carried out with hand tools like knife or hoe and today such alteration yielded a positive improvement in all aspect of productive activity, thereby resulting in mass production of goods and services at a lower labor cost.

The second industrial revolution prevailed during the 1840 - 1900 and was called power revolution and was characterized by centralized electric power infrastructure and mass production through division of labor. In this regime, electric lighting rapidly advanced mainly across the United States and subsequently adopted in Europe. According to Hackett (1992) the electrical industry was dominated by large companies that developed new products and then manufactured and marketed them. These companies were based in Germany and the United States but sold their goods all over the world. They were the first multinational companies. Companies like Westinghouse and General Electric helped to electrify cities in

Europe, Africa, and South America. Also during this era, the steel and chemical industries used a new technology that resulted in increased production. The size of factories increased rapidly, employing more workers and using more machinery. The third industrial revolution occurred in the 1970s and this dispensation was characterized by rapid digital revolution and consequently ushered in increased the use of digital computing and communication technology (Gabriel, 2018). It was during this regime that the adoption of computers, computer networks like WAN; LAN, MAN, artificial intelligence etc. were embraced by organizations as it revolutionized the traditional means of acquiring, handling, utilizing and storing information.

Industry 4.0 also known as the fourth industrial revolution emerged as an alternative means of reviving and boosting the declining state of the European economy which according to Davies (2015) has lost a third of its industrial base over the last 40 years. He went further to allude that by the third quarter of 2014, the value added by manufacturing sector to the economy in the European Union i.e. Germany, France, Britain and Italy indicated only 15.3% of total value added, a decline of 1.2 percentage points since the beginning of 2008. Ever since its introduction in 2011, specifically by the German Government, all other advanced countries of the world have in one way or the other adopted and replicated it in their own standard. For instance, The United States has setup a National Network for Manufacturing Innovation with the sole aim of drawing a pool of research experts in the country together to synergistically work towards discovery of digital manufacturing and design possibilities for Smart factories.

Also organizations in the Asia/Pacific Region were not left out in this race for first arrival to the promise land of cyber-physical system driven industry. In their effort to synchronize this ideals, they have raised and invested about US$10 billion in the Industrial Internet of Things in 2012 (Davies, 2015). The fundamental reasons for these varied efforts by different countries across the globe is to ensure that they enjoy the first mover advantage in relation to what the smart industry holds for the future in manufacturing. Just as Gabriel (2018) opined, the concept industry 4.0 has become a matter of national urgency across several parts of the world as countries are adopting different strategies to arrive there earlier than others in making Industry 4.0 to be more than just a vision. But unfortunately in the midst of all these efforts by other country to better position their economy for what lies ahead, back home in Africa Nigeria to be precise, as a developing nation has not made an iota of effort to show that they understand what it is all about much less developing it research wise.

According Gabriel (2018) while advocating the need for the Nigerian state to key into the current economic direction of smart manufacturing, observed that National Agency for Science and Engineering Infrastructure (NASENI) recently stated that the manufacturing sector in the country is not yielding the desired impact on the GDP even when the

country have been counted among the 20th richest countries by 2020 projection. In responds to this, Adekoya (2017) in order to achieve this vision, the adoption of Advanced Manufacturing Technology (AMT) is the only way forward in the advancement of our industrial development.

Since the introduction of industry 4.0 in 2011, not quit much literature has been developed to further expatiate on its meaning and benefits to nations and institutions across the globe intending to adopt it. But some scholars have tried to a large extent in popularizing its philosophies. Accordingly, Pfohl, Yahsi and Kurnaz (2015) explained that it is the totality of all disruptive innovations derived and implemented in a value chain to synchronize the trends of digitalization, auto-nomization, transparency, mobility, modularization, and network-collaboration and socializing of products. Gandhi (2015) in his view suggested that it is a combined term for technologies and concepts of value chain in organizations. Davies (2015) sees it as a term involving a group of rapid changes in the design, manufacture, operation and service of manufacturing systems and products. Furthermore, the German Chancellor, Angela Merkel in her opinion posited industry 4.0 as a comprehensive transformation of the whole sphere of industrial production through the merging of digital technology and the internet with conventional industry.

Having looked at the various positions held by the proponents of the subject matter; in our own view industry 4.0 is defined as an era in industrial life circle concerned with total modification of the entire production processes owing to the adoption and integration of digital technology and internet of things as the last resort in the enhancement of industrial performance. What industry 4.0 intent to achieve is not far from digitalization and total connectivity of the entire production processes cutting across plant layout, suppliers, distributors and products, too. The concept has indeed come to stay and any nation that fails to key in is on the journey of self-inflicted injury looking at the potential benefits of what its proponents have outlined upon successful adoption and application. According to Davies (2015) and a study conducted by the Boston Consulting Group (2015) successful industry 4.0 depends largely on current innovative technological development such as:

The Application of Information and Communication Technology (ICT): What this implies is that for industry 4.0 to thrive effectively there is need to digitize and integrate systems at all stages of production of any given product as well as its usage. The implication of such digitization of organization's internal processes, product designs, pattern of communication and all other areas of production processes and supply chain will be altered and this will result in greater efficiency (Geisberger & Broy, 2012; Gabriel, 2018).

Cyber-physical systems: This involves systems built and tightly integrated with cyber such as computation and communication and physical systems such as highway, electricity, factory, etc. What this means is that through such a synergy between cyber and physical system, information technology can be used to regulate and monitor physical systems in a more secure, efficient and real time manner. This according to Davies (2015) is the use of intelligent and creative artificial intelligence like robots and imbedded sensors.

Network Communications: This revolves around the utilization of wireless and internet technologies that facilitate the linking of machines, work products, systems and people, both within the factory yard, and with suppliers and distributors outside the organization

Simulation: The focus of this is to ensure that the much anticipated benefits of smart factory and its respective tools are first and foremost test-run upon completion of design through a visual model to assess its efficacy and reliability before its full integration and implementation. Gabriel (2018) asserted that such simulations will generate real-time data to observe the physical world into a virtual model, which may include machines, products, and humans.

Cloud Computing: This is basically about delivery of on-demand computing services in the area of application and storage of data on the basis of pay –as- you go typically over the internet (Ranger,2018). Although organizations have been using cloud computing in some aspects of their operations before the advent of industry 4.0 movements but the implication of cloud computing in this current industrial revolution according to Gabriel (2018) with the maturation of cloud computing we will increasingly have cloud-based systems; which will in turn enable industrial systems make machine and production data available in the clouds. Furthermore, it will generate and enable a new method of decision-making with greater horizontal and vertical integration in the cloud.

Autonomous Robots: According to Gabriel (2018) this is a form of alliance between artificial intelligence and human being working synergistically to deliver on a given task. In this instance, these robots are programmed in such a manner that they can independently carryout complex tasks in an effective, efficient and real time manner with less human element involvement. They are programmed in such a way that they cooperatively work with each other in the resolution of any task challenge autonomously. They have the capacity to achieve in a matter days targets humans cannot achieve in years as they never get tired of work, have the ability to readjust itself in line with the expectations of the day. In line with the focus of the proponents of a smart factory, with these discoveries, they will have succeeded in complete optimization of production processes, thereby reducing errors, wastages, and cost why improving total quality (Oesterreich *et al.*, 2016). In addition to Oesterreich *et al.* (2016) position, we observed that a complete optimization of the factory will also lead to loss of job on the human side and result in sabotage of the entire smart factory movement.

Cyber Security: The essence of this is to ensure that the safety of organizations' information and data are guaranteed due to possible threat of hacking and stealing by fraudsters and unauthorized users. However Porup (2017) is of the view that a proper awareness of cyber-security is the beginning of overcoming such threat. Therefore in view of smart factory, it is expected that reliable, secure communications as well as sophisticated identity management, machine and user access levels have to be reviewed properly. Advanced manufacturing benefits from advances in communication technologies, and with it, they tend to increase connectivity in all areas. With increased connectivity and use of standard communication protocols, there is also a need to protect critical industrial systems and manufacturing lines against cyber security threats. With this, reliable and secure communications, sophisticated identity management, machine and user access levels are crucial to operational success.

IV. BENEFITS ASSOCIATED WITH ADOPTION OF INDUSTRY 4.0

Leaning on what the proponents of industry 4.0 have said concerning what its users are bound to gain, it is obvious that government of nations across the globe are beginning to prepare grounds for early and smooth transition to it. According to Davies (2015) successful digitalization of manufacturing operation will bring about a whole lot of changes in the entire production process and this alteration will lead to greater and better business outcomes for instance:

Productivity: In this instance, scholars are of the opinion that smart factory has the capacity to bring about a higher productivity and general performance of organization. This is because industry 4.0 will have the ability to collect and analyze data across machines, while maintaining speed and flexibility (Gilbert,et al,2015). They further stated that this will facilitate faster and efficient processes to produce higher-quality goods at a cost effective price thereby increasing manufacturing productivity, and foster industrial growth. Again Davies (2015) posited that by utilizing advanced analytics in predictive maintenance programmes, organization can avert the tendency of machine failures on the factory floor. The implication of this is that such organization will never experience any form of downtime in their operational life and productivity will keep soaring high.

Revenue Growth: With the emergence of industry 4.0, it is expected that organizations using it will also enjoy increased revenue growth as a result of consumer demand for a wider variety of increasingly customized products which in turn generate more revenue for firms.

Employment: Again, based on the expected benefits of smart factories**,** scholars like Gilbert et al (2015) have stated that a fully implemented smart factory system will result in the stimulation of employment generation by 6 percent in the long run with emphasis on those with technical skills. But we quite disagree with this assertion in part because if the increase in employment opportunity basically focuses on those with e-

skills, the implication is that those with little or no technical expertise (laborers) will be shown the way out hence, their service will no longer be required. Therefore it will be safe to say that the emergence of smart factories will have more of negative consequences on job creation than a positive one especially when it comes to the situation of developing and underdeveloped nations of the world.

V. THE CONCEPT OF TRAINING AND RETRAINING

The concept of training and retraining are considered necessary measures in the reinforcement of employee skills in order to achieve quality service delivery. Training and retraining are better placed when considered as critical elements of human capital development. In organization we have different forms of competence and as such a distinguishing classification helps pay respective attention to training and retraining needs for each employee (Izushi & Huggins, 2004). Armstrong (2006) observed that employee training and retraining is a work activity that can make a very significant contribution to the overall effectiveness and profitability of an organization hence, it adds great value to an organization's intellectual asset base.

Training is defined as an intended effort to acquire new knowledge, develop new attitude and learn new skills in a progressive manner. Training provides a gateway to mastering new skills and serves as motivating force that encourages employees to accept adjustment to their skills and attitudes. Through training a new worker is introduced and integrated into the organization's rules and regulations as well as work culture. And helps them at the entry stage to know what to do and also enables them to understand the inner workings of the organization (Jaja & Okwandu, 2007). Armstrong (2006) further stated that there are different methods of training which includes in-service training, on-the-job training, apprenticeship training, conferences, seminars and workshops while Jaja and Okwandu (2007) suggested that training and development initiative can be achieved through socialization or orientation, induction training, on-the-job training, apprenticeship training, vestibule training, supervisory training and executive training.

On the order hand, retraining is borne out of the need to correct and update employee on current change that had occurred in their different areas of specialization and the industry in general. This why is Imhabekhai (2000) defined it as activity involving the renewal or updating of worker's skills, knowledge, attitude, work habits and competencies to enable them perform their assigned responsibilities creditably. This is very important for employee because of the rapid changes going on in the business environment especially technology which is the major driver of the smart industry project.

Globalization and Training and Retraining in Developing and Under-developed Nations

According to Husain (2015) the emergence of globalization is characterized by free flow of technology and human resources across national frontiers. Technology as we know is the combination of skills and equipment that organizations utilize in the design, production and distribution of goods and services while human resource represents the total number of healthy human beings in relation to skills and competencies that organizations engaged to utilize its technologies in the execution of their objectives in exchange for wages. Looking at the relationship between an organization's technology and its workforce and the moderating role of globalization in their acquisition, we can rightly hypothesize that globalization has a great influence on training and retraining of organization's employees especially in developing and under-developed nations like Nigeria, Kenya, Gambia etc.

According to Bhagwatty (2004) globalization has reshaped the world a little smaller with the economies of nations becoming progressively incorporated. And it is very pertinent to note that for organizations in developing and under-developed country to operate favorably in a globalized era, the quality, efficiency and competitiveness of human resource is of utmost importance. This is simply because globalization despite its imperialistic benefits also throws a great deal of challenges to nations (organizations) and only those nations that respond swiftly especially during times of technological growth and development can thrive. Husain (2015) supports this claim that for a business to remain competitively strong in a changing environment due to globalization, it must gradually improve its human resource management systems and organizational changes. And this suggests that in the midst of all the benefit of globalization, the challenge for organization is to critically pay attention on strengthening their human resource by training and retraining their relevant competencies.

Scholar like Osagie (2011) suggested that developing and underdeveloped nations should understand that globalization phenomenon is a continuous economic process and as such individuals, organizations and government are always interested in new processes and innovations. To us we believe that government and organization interested in this new innovation can only be feasible through developing employees' competencies in that direction so as to compete favorably with others. Just as Osagie (2011) has said that one of the underlying drivers of globalization is technological change such as the information technology and Aziz (2009) is emphasizing that through information technology we have been able to efficiently and effectively transfer information from one national frontier to another. This therefore implies that in synergy with technology, globalization can have a positive impact on training and retraining of employees in the developing and underdeveloped nations for enhanced performance. For instance, employees in the developing and underdeveloped countries can actually learn a given skill by

the simulation method which allows the user to test and optimize machines in visual world before the physical training hence, making the training program less hazardous, exciting and efficient.

According to Gersbach and Schmutzler (2006) globalization tends to support human capital investment through various channels but its effect may vary from country to country.

McFarlin (2018) maintained that the effect of globalization in the workplace is yet to be revealed, but as more organizations in different parts of the world like the developing and underdeveloped nations embrace it and become more diverse and interdependent, some changes are bound to be made. Here some of the anticipated changes that could be made to foster International trade in this circumstance could be in the area of partnership, outsourcing, merger and acquisition, licensing, etc. between country A and country B thereby creating room for technology transfer and mutual benefits (Pissarides, 1997). But then, for all this to be achieved under such high level of diversity there has to be training and retraining course for the two countries coming to together in order to harmonize the issue of cultural, religious and ethnic diversity which if not addressed may pose a serious threat to social cohesion in the workplace.

Industry 4.0 and Training and Retraining of Employee in the Developing and Underdeveloped Nations

Industry 4.0 being a technology driven industrial era will definitely have implications on the employees in organizations operating in developing and underdeveloped world. The adoption of a smart factory system will really create a serious need for the acquisition of a new skill set that will be utilized to man the new business model which basically requires more of e-skill than any other form of skill. Husain (2015) affirmed that the rapid growth of information technology and the growing importance of knowledge-based industries usher in the need for opening up new avenues for human development. Incidentally industries operating in developing and underdeveloped nations are not prepared for this transition now but the underlying factor here is that when they do, industry 4.0 will surely trigger a preponderant need for training as well as retraining need as a result of subsequent changes which are imminent characteristic of technology life cycle. These trainings and retraining will be based on the implementation of the STEME (Science, Technology, Engineering, Mathematics and Electronics) system of education.

Furthermore, industry 4.0 is expected to have major effect on human resource training and retraining policy of organizations in developing and underdeveloped nations because to them the whole idea of industry 4.0 is alien to their usual method of productive activities. Therefore to achieve successful transition training and retraining of the employee is sacrosanct but the sad news here is that not all the employees will be retained in this era much less training and retraining them. Davies (2015) clarified this argument when he declared that

the pattern of industrial operation has been shifting from largely manual labor to programming and control of high performance machines; that workers with low skill levels like the laborers risk the possibility of redundancy unless they are retrained. Also Rubmann et al (2018) in trying to show how industry 4.0 can affect organization's workforce training and retraining revealed that in the face of this transition both suppliers and producers must work to adapt infrastructure and education as they embrace the technologies of industry 4.0 through a combined effort with government and industry association to develop and increase the much need e-skills competence workforce. Skill acquisition centers should be established, science and engineering, mathematics programs added to all schools.

VI. CONCLUSION

Drawing from extant literature review we must acknowledge the fact that the world is no longer stagnant but rather in a state of revolution and evolution in all sphere of human endeavor as facilitated by technology and globalization phenomena. As a result of the influence of these two phenomena, some aspects of human activities are radicalized overnight while some are still experiencing gradual change and it is quite obvious that nations and organizations that fail to synchronize this new wave of change with appropriate preparations and strategies will definitely end up in the bosom of other nations as perpetual slaves. Due to advances in technology the world is now considered a global village where you can be in your closet and reach out to the whole world in a twinkle of an eye. The globalization of the world for obvious reasons has brought so much joy and pain to the world. A bliss to its proponents (West) and a pain to the African states which is why we view it as an agent of pros and cons. It is minutely for and esoterically against the growth of developing and underdeveloped nations because the loss and pains it brought to the developing and underdeveloped nations outweighs its unrealistic promise of a better life than we were.

Furthermore, the call for a radical change on the pattern and system of industrial processes is on course. The great Industry 4.0, a phenomenon designed to change the phase of production process as powered by technological advancement of the West with developing and underdeveloped nations is nowhere to be found in the whole scheme of things. Industry 4.0 is promised to bring about smart factories, products, and smart cities and smart everything around the world thereby giving robots the capacity to perform virtually every task of man in the transformation and distribution of goods and services. Therefore, it is imminent that the new wave of globalization in conjunction with industry 4.0 will alter the tendency for training and retraining of employees in the developing and underdeveloped countries if they have to catch up with the new trend.

We visualize that this will force organizations in the developing and underdeveloped countries to cut down on training of employees engaged in repetitive activities like the laborers whose job may likely not be retained in the long run but believed that the influence of globalization and industry 4.0 will trigger more need for training and retraining courses for their employees in the technical department in order to facilitate quick and easy transition to the new era else they risk entropy.

Recommendations

In line with the forgoing observations, we recommend as follows:

i) That organizations operating in developing and underdeveloped world should be conscious of the revolutionary and evolutionary nature of global business environments and ensure that they adapt appropriately without losing sight of the imperialistic tendency of the West.

ii) That organizations in the developing and underdeveloped countries should embrace the positive side of globalization and resist the negative aspects of it by insisting on equality and win-win atmosphere on the associated benefits of globalization.

iii) That industry 4.0 is a new wind of change orchestrated by the West through technology advancement for improved production process and as such should be closely observed and monitored because of its implications on employee skills and competencies

iv) That before adoption of industry 4.0 systems, there is need for a proper identification of the required skill set and this should be followed up with adequate training and retraining programs to upscale their skills in that direction and also reduce the tendency for resistance and redundancy.

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