
Technical, Vocational Education and Training (TVET) for Human Resource Development (HRD) in the Emerging Knowledge Economy

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Abstract

High quality human resource is a critical factor in organizing a vibrant economy that must survive and thrive in the globalizing knowledge economy. These flock of innovative and knowledge human resource is developed and preserved through continuous education/training. As a result, nations in quest of transforming to economic super-power now lay emphasis on human resource development (HRD); as effectiveness and efficiency in capital utilization solely rest on quality and potential human resources. This has led most nations' increased interest in improving the capacity of TVET system, in recognition of its vital role in developing relevant human resource. However, the emerging knowledge economy brings new challenge for TVET system in meeting this task. Thus the paper is set out to examine the position of TVET in HRD, exploring the challenges arising from the emerging knowledge economy; and recommending improvements on TVET system for more effective HRD in the knowledge economy.

There is a growing awareness that innovative and knowledge workforce is truly a competitive advantage in the global marketplace. Economic vibrancy and survival now

rest on the productivity of the workforce. Nations' capability to attract appropriate and relevant investment is dependent on the pool of available skills; as this provides basis for employment creation and human resource development. In concordance, Okorafor and Okorafor (2010) claimed that the future success of nations, enterprises and individuals will increasingly depend on a pool of transferable and renewable skills and knowledge. There is no contention then that high quality human resource is a key factor for survival and development under the environments of globalization and knowledge economy (Eze & Okorafor, 2012b).

Integration into the global and knowledge economy requires skilled workers to meet the demands of the local and international markets. Current economic trends are placing emphasis on new range of knowledge and skills. The trajectory economic activities' shift from production to service leads to emphasis on the knowledge and attitudes of those who provide high value services. This is where the knowledge economy emerges as a notion in which high quality knowledge and skills become the driver of economic development and international competitiveness (McGrath, 2002). This is to say that only nations/enterprises with high value of productivity (i.e. creativity, innovativeness and knowledge) will be domestically and globally competitive (Obioma, 2010).

Therefore, nations and enterprises are in need of potential workforce that can respond to their developmental needs and demands of a rapidly changing, globally competitive world. This has brought to light the dire need to cultivate human capital suited to labor demand as a competitive weapon to drive higher value. Human Resource Development (HRD) has evolved as a fundamental solution to this challenge. As rightly buttressed by Marimuthu, Arokiasamy and Ismail (2009); achieving high quality human resource for sustainable development in a rapidly changing environment means exposing the workforce to a comprehensive HRD (education and training) programs. Learning needs must be met through access to appropriate learning and life skills programs as provided by Technical, Vocational Education and Training (TVET). As technical innovations fuel the demand for skill workers, with the convergence of technical changes, reorganization of work, economic openness and competition, and capital deepening; the need for TVET is increasing. Hence Yamada and Matsuda (2007) affirmed that in recent years, a desire has surfaced to actively recognize a new, the role of TVET sector to achieve national development through technical innovations spurred by the advancement in technology and globalization.

The core issues that concern HRD, as the question of how to reduce unemployment/underemployment, mismatch between skills and jobs, while simultaneously creating the new productive jobs and improving quality of life of the workforce, seem adequately addressed by TVET. Thus the paper looks at what HRD

means, the relevance of TVET in HRD, the emerging knowledge economy and its effect on HRD and the consequential demands on TVET, and how TVET will meet the demands.

Human Resource Development (HRD)

Human element in production is regarded as human resource, and resource is something that can be transformed, used or exploited in order to derive some benefit (Bouchard, 2006). Human resource is acquired and preserved through continuous education and training to yield dividends in form or enhanced productivity. The integrated use of education and training, organization and career development efforts to improve individual, group and organizational effectiveness is HRD.

Kelley (2001) described HRD as the expansion of human capital within an organization through the development of the organization and individual to achieve performance improvement. To Heathfield (2012), it is a framework for helping employers to develop their personal and organizational skills, knowledge and ability. HRD aims at developing human expertise for improved performance and empowering organizations to take advantage of their human capital in performing current and future jobs; through planned learning activities.

HRD may refer to processes and activities (as training, education or professional initiatives) undertaken to enhance employees' performance and satisfaction, as well as those of the firm. HRD as a process develops and strengthens the competence of individuals for fluidity, flexibility and functionality to adapt and thrive in a fast changing world, by meeting their goals and missions in a sustainable way (Okorafor, Okorafor & Ike, 2011); which is in consonance with the goals of TVET.

Technical, Vocational Education and Training (TVET) and its Relevance to Human Resource Development (HRD)

TVET refers to those aspects of educational process involving, in addition to general education the study of technologies and related sciences, as well as the acquisition of practical skills, attitudes, understandings and knowledge relating to occupations in various sectors of economic and social life (Federal Republic of Nigeria - FRN, 2004). TVET is the type of education and training specially designed to meet the economic and social needs of young people, who want to work and adults, who want to acquire increased job competencies and thus raise performance standards at the workplace (Eze & Okorafor, 2012a).

TVET is a deliberate intervention to bring about learning which would make people more productive in designated areas of economic activity. TVET has the potential to enhance people's capabilities and enlarge their choices. It aims at enabling learners meet needs of employers for qualified labor and/or own needs related to

production of goods and services (Ayuba & Gatabazi, n. d.). TVET aims at developing not only practical skills but also attitudes and habits that make the recipient a creative, innovative and resourceful person. TVET is a multifaceted, multidisciplinary and pragmatic field of study that enhances its recipients' relevance and functionality in the society (Uwaifo, 2009). There is no gainsaying then that TVET is a well-articulated HRD program most suitable in meeting the demands of the emerging new (knowledge) economy.

Calhoun and Finch (1982: 9) acknowledged that TVET:

through the years has been responsive to the needs of the society. When geographic and occupational mobility of workers accelerated and improved technology requires higher degree of trained skills, society turned to schools to supply its needs for trained workers.

Effective TVET recognizes that education and training in any country needs to be based on reliable labor market information, demand and employer's needs, particularly in priority trades and occupations. This is a dynamic process as demand and employer's needs must keep pace with changes in technology and the rise of new skill sets. Government of Ethiopia (2008) noted that TVET institutions are mainly expected to replicate new and selected technologies and transfer the same to the relevant industry in order to increase the competitiveness of the sector according to international standards. To this end, Management & Training Cooperation (MTC) (2010) affirmed that a responsive TVET system will include methods to gauge/survey employers to gather labor market information. This information will guide changes in the training of school graduates, employees in need of up-skilling, and students attending TVET institutions and similar training organizations.

It could be deduced then that, TVET is a convenient vehicle that conveys HRD goal of performance improvement via increasing competence to meet the target of personal/organizational effectiveness and competitive advantage. Thus the need for HRD to enhance the development of the economy, self-reliance, self-sustainability and competitive edge, are the driving forces for acquiring TVET programs.

Effects of Knowledge Economy on HRD

The world is entering into a new era, where economic success is increasingly based on the effective utilization of intangible assets such as knowledge, skills and innovative potentials as the key resource for competitive advantage. The emerging knowledge economy is characterized by knowledge and brain power, industrial and occupational change, climate for growth, information technology revolution, globalization, and dynamism and competition. The engine of growth is the process through which an economy creates, applies and extracts value from knowledge (Leadbeater, 1998). The application of knowledge in areas as entrepreneurship and

innovation, research and development, software and product design and education and skill levels, is now recognized as the key source of economic growth (Worldbank, 2008).

Seltzer and Bentley (2000) identified four key impacts of the knowledge economy, which have increased the demand for more and different skills:

- i. Weightless economy: the growing importance of intangible resources, information, human capital, research and development, brand and organizational networks
- ii. Weightless work: the number of part-time, temporary, fixed contract and self-employed workers has risen steadily. Workers must manage themselves in a more fluid and unstable organizational environment
- iii. Networked economy: digital technology, organizational restructuring and higher values of information are generating a shift from vertical to horizontal relationships within and between firms. Networks are becoming a basic organizational form.
- iv. Knowledge and skill exclusion: the increasing premium on new skills and qualifications is creating new patterns of marginalization among those who are not motivated to acquire marketable knowledge. Developing new kinds of skills are central to future prospects.

In the knowledge economy, knowledge is a key factor for growth, wealth creation and employment, whereas human capital, which is generated via HRD, is the driver of creativity and innovation that are major factors in the knowledge economy. Knowledge economy thrives where adequate knowledge interlaces with technology and managed by appropriate skills. Thus the emerging knowledge economy is increasing the pressure on reorganizing and restructuring a more effective and responsive HRD strategy.

There is a shift from natural/physical capital to human capital to build knowledge economy. Technological progress, organizational change and intensified global competition have driven a shift from manual work to ‘thinking’ jobs that emphasize a whole new range of skills. The important generic skill clusters required to thrive in the knowledge economy include information management, self-organization, inter-disciplinary, personal and inter-personal, reflective and evaluation, and risk management (Seltzer & Bentley, 2000).

Economic development depends on peoples’ capacity to out-invent and outwit their competitors, tune into the desires and demands of consumer market, and to change jobs or develop new skills as economic fluctuations and downturns require. Skill needs of employees are increasing due to changes in processes and technology, increased emphasis on multi-skilling and greater focus on customer care (Skills and Enterprise

Network, 1999). About 50 percent of technical skills become obsolete within three to seven years (Canadian Labor Market and Productivity Center, 1993). This has led to dearth of suitably skilled people. As conditions change more rapidly, companies are more likely to recruit for adaptability and fresh ideas rather than standardized skills and experience. Companies now adopt different approaches to human resource management such as: hiring and layoffs, altering hours of work, using part-time and contract workers, subcontracting and outsourcing job, reducing hierarchical structures, adopting more fluid job designs, implementing multi-tasking, multi-functional teams, multi-skilling, and self-managed teams (Human Resource Development Canada, 1996). This explains the shift from industry specific skills towards more personal qualities and soft skills as communication, teamwork, reliability, problem-solving, positive attitude to learning and capacity to manage one's training. These challenges point to the dire need to increase the capacity of TVET, in order to meet the demands of HRD for the knowledge economy.

Implications of the Effects of Knowledge Economy on HRD to TVET

Developing nation are just awakening from long sleep of negligence of TVET (Mbanefoh & Bamiro, 1990); and are questioning the quantity and quality of TVET in the nation's system of education and among youths especially in the 21st century. Most African governments have not effectively facilitated rearing of human resources suited to the labor market because of ambitious, yet unrealistic policy. Education and industry sectors exist separately while the importance of school-to-work transition of students is being advocated. Discussion of these matters has failed to probe deeper than the surface, resulting in a lack of realistic policy linking school education to labor market (Yamada & Matsuda, 2007). Again, the high unemployment rate has become a sizable social problem in Africa. Low rate of people reaching employment through TVET is due to unseasoned trust and collaboration among government, training institutions and enterprises (Lim, 2009; Huy, 2009; Asian development Bank, 2009). There is socially-constructed and commonly held belief that TVET is lower in value than academic courses.

Globalization and associated technical changes make clearer the need to rethink conventional models of skill and modalities of skill acquisition. New skills and partnership will be crucial to new ways of working. The constant changing business environment requires the incorporation of creativity and innovativeness in any business plan that must be sustained. More so, rapid technical change has increased the weight of reskilling and lifelong learning. Soft skills as problem solving, communication, teamwork and those relevant to ICT areas, are becoming very vital. Afenyadu, King, McGrath, Oketch, Rogerson and Visser (2001) affirmed that collaboration between firms within the same related area of production and with those who provide services to

such clusters has been identified as an important source of learning and competitiveness. Bohlander and Snell (2007:8) contented that:

Technological invention and advancements have led to the increase in a variety and number of jobs requiring advanced knowledge and considerable skills, thus transforming human capital platforms from touch labor to knowledge workers. Knowledge workers, whose responsibilities extend beyond the physical execution of work to include planning, decision making and problem solving.

This calls for re-evaluation of TVET to meet the demands of the knowledge economy on HRD. The relationship between knowledge economy, HRD and TVET can be illustrated as shown in figure 1. The figure shows that TVET stands in the gap between the goals of HRD and the demands of knowledge economy to create a balance. In other words the demands placed upon HRD in reaching its goals by the knowledge economy is adequately addressed via effective/functional TVET system.

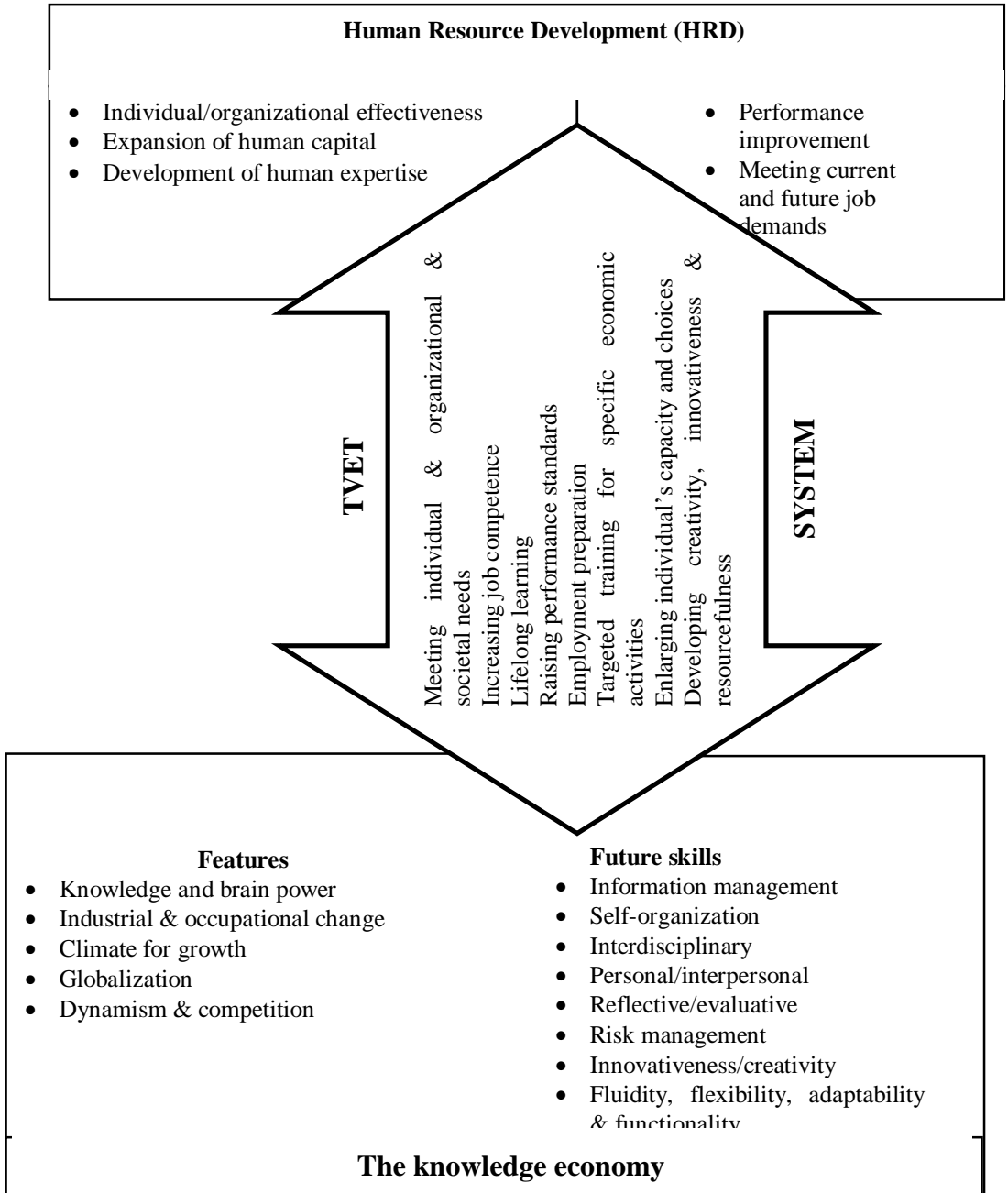


Figure 1: Relationship between Knowledge Economy, HRD and TVET

Source: developed by these authors

Conclusion

The emerging knowledge economy is leading a fundamental change in economic activity. Emphasis on economy factors are increasingly shifting from natural and physical capital to human capital; and from manual work to thinking work. Thus, increasing the need for HRD to meet the pressing demand for new skills of the knowledge economy. TVET by its nature, if adequately implemented could prove very effective as a HRD strategy in meeting this challenge. Therefore, nations in quest of transforming to economic super-power should increase the capacity of their TVET system.

The Way Forward

The truth is TVET provides training but not the guarantee for job. Even the world's most sophisticated and expensive program is doomed to fail if the labor market cannot absorb the students, despite their skills and expectations. If TVET will be an effective HRD strategy for attaining knowledge economy, then any government desiring such must put in place policies and systems; to support all forms of TVET programs (formal, informal, public or private); for the development of the poor and socially vulnerable classes to whom market mechanism have failed to deliver training to.

This calls for reevaluation of education policy with reference to labor and industrial policies. It will be very difficult to achieve education empowerment effectively in the knowledge economy, if we maintain the industrial age model of school constrain by space and time. There is need to rethink differently and radically for a TVET system that will foster; interactive learning, balance between challenge and skills, trust and support, freedom of action, and variation in context. TVET should focus on developing human capital attributes as; flexibility and adaptability, individual and organizational competencies and individual employability (Garavan, Morley, Gunnigle and Collins, 2001). Since lifelong learning is the only way to prevent obsolesce and remain competitive in a job market, where work is becoming increasingly knowledge intensive, TVET should be made flexible and continuous taking the advantage of the new technology (ICT).

Noting the indispensable position of TVET in HRD, Yamada & Matsuda (2007) claimed that with the great need for HRD suited to labor demand in Africa, TVET should be given priority in policy discussions on the education sector. They further affirmed that basic education is a prerequisite for acquiring vocational education, but technical skill cannot be acquired through basic education alone; therefore TVET should be as vital as basic education.

TVET has to reorient its agenda for action so as to continually provide scientific and technical skills in relevant and responsive program; and consequentially develop a

new generation of human resource. Ayuba and Gatabazi (n. d.) highlighted that TVET can catalyze HRD if the following steps are taken:

1. Flexible and industry led curriculum that integrates innovations, vocational and general education and that is delivered through a multidimensional approach
2. Incorporate new education/training technologies into TVET programs
3. Increase international and regional cooperation to strengthen TVET

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