

## **Role of E-Learning in National Development**

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### **Abstract**

*This paper identifies and highlights the role and importance of e-learning in the national development of Pakistan. Paper delves on the conceptual framework of e-learning, cardinal aspects of national development, e-learning efficacy in South Asia in general and Pakistan in particular. The role of education in human resource (HR), in the hierarchy of national development has also been explained. After determining the significance of education in HRD, the fundamentals of e-learning have been elaborated and how e-learning can be used to bridge the digital divide and achieve national development. The essay also proffers some recommendations on the adoption of e-learning system in Pakistan. The empirical findings of this study are useful at national level for optimum utilization of e-learning techniques in human resource development programs.*

**Keywords:** E-Learning, Education, Human Resource Development, National Policy, South Asia, Pakistan.

### **Introduction**

Pakistan continues to bounce today, despite all odds at the time of independence, surmounting all the odds that faced this infant nation. However, Pakistan has not progressed as per the expectations of the founding fathers who wanted Pakistan to progress rapidly. Today, when the human resource is considered as an asset and the edifice of national development, the entire world is focusing on honing their youth with multiple skills, Pakistan has failed to capitalize on this force multiplier of national development. The inability to tap the potential of burgeoning youth has not only retarded the national development but it has also resulted into creation of many other ills in our society, the pinnacle of which is the menace of terrorism.

With the characteristics of economy, flexibility, easy access, functionality, ease of use, interactivity and adaptability, e-learning may prove to be the panacea for all the problems that Pakistan is facing (Pituch and Lee, 2006). Since the meager allocation for Human development and especially education is not likely to see a quantum increase in the near future, the adoption of e-learning in the entire

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country could result into bridging the digital gap and turn around in the human resource asset of the country.

### **Cardinals of National Development**

Development is a social condition within a nation, wherein wants of its people are fulfilled through the sustainable and rational use of resources (natural) and systems. Utilization of these natural resources is technology dependent, which respects the cultural features of the populace of that particular country.

### **Major Components of National Development**

Production, finance, foreign trade, infrastructure and human resource development through education and provision of basic amenities and social services are considered to be the major components of national development (Iacono, 1999). Being, the key enabler to enhance social skills and economic development, a closer scrutiny indicates 'Education' to be the key component of development since it affords people with skills that is necessary for the social development and their own personal development (Dervis, 2009). Technology, the other component, on the other hand facilitates development in many ways. Together with education; it can lead to better productivity and improved economy. Political empowerment is also another component.

### **National Development in Pakistan's Context**

Replacing the five years plans, Pakistan has adopted Perspective Plan 2025 to make Pakistan a developed country by 2047 (ISSRA, 2016). Regrettably, the facts and figures belie the tall claims of the Govt. With the GDP of \$574.1 billion (2013 est.), Pakistan has fallen down to 133 on competitiveness ranking amongst 148 countries from the previous position of 124. The abysmal fall reflects institutional weaknesses and lack of economic capacity to create space for innovation. In the per capita GDP, Pakistan stands 177 in the world and 120 in the national savings. Pakistan ranks 67 out of 125 countries in basic infrastructure category (Schwab, et al., 2006). These facts project a bleak picture of national development indicators of Pakistan. Such shortcomings have to be redressed radically to enable Pakistan to practically slide up on the developmental indexes in company of Nations. Since this essay primarily deals with the role of e-learning in national development, therefore, only the essential components of the Pakistan's national development i.e. Human Resource Development and Education would be discussed in detail.

### **Education and Human Resource Management**

Human Resource Management (HRM) denotes the population of a country and serves as a vital development factor. In less-developed countries like Pakistan the current quality of human resources and their development strategies are woefully inadequate. As a consequence, most of these countries are caught in a vicious circle of the perpetuation of low skill level and under development. Pakistan is far from achieving the human resource development related Millennium Development Goals (Education - minimum 4% of GDP & Health – minimum 2% of GDP (Rizvi, et al., 2015), the budget allocation indicate a clear assessment that allocations made for education, health and social welfare have been minimal resulting in unhealthy state of HRM. In short the commitment to HRD at the highest level has been inadequate. Recent inequality adjusted - Human Development Index (IHDI, 2014) shows poor performance of Pakistan (108/144) (UNDP, 2015). The focus of our planning has been growth oriented without giving due importance to education, health, nutrition and migration. It is, therefore, imperative to discuss these aspects threadbare.

### **Education in Pakistan**

Education and development are closely interlinked (Memon, 2007). Considering education as the basic right, the 1973 Constitution of Pakistan enshrines upon the Federal Government the task of promoting educational facilities in the federating units of Pakistan (Khalid and Khan, 2006). Like many other developing countries of world, including Pakistan's expenditure on education is considerably small as compared to other sectors of the economy (Green, 2008). Pakistan's abysmal developmental indicator correlates to the poor progress in education sector. Pakistan's burgeoning population (exceeding 184 million), 64% out of which dwell in rural areas, characterizes the lack of resources and infrastructure. The abysmal literacy rate of 56 % further exacerbate the problem (Malik, et al., 2015). On the Human Development Index (HDI), Pakistan stand at 146 out of 186. The performance of Pakistan in the context of Index of Education Development Index, equates with Bangladesh, both at the bottom of the Index. Regrettably, Pakistan has missed almost all the targets of Millennium Development Goal (MDG) along with other benchmarks including education, health and the other interrelated fundamentals of competitiveness (Malik, et al. 2015). The poor performance in the educational sector owing to lack of infrastructure as well as low participation in higher education have contributed in placing Pakistan in the UNESCO table at the rank of 113 out of 120 countries. Four contributing factors in the same order; poverty, lack of awareness, gender discrimination and mismanagement

of government have been identified as the reasons for low literacy level (Naeem, 2013).

#### *Education Structure*

The three tiered educational system of Pakistan encompass elementary tier of education, secondary tier education and Higher Education. As of 2010, the enrollment in educational institutes was 34.84 million with 1.307 million constituting as teaching faculty. Deeni Madaris constitutes 4.95% out of total educational institutions, vocational Institutions 1.2 %, high schools 10 %, middle schools 16%, and primary schools constitute 50% (Iqbal and Ahmad, 2010). According to Pakistan Education Statistics Report (2015), Pakistan's education system consists of 260,200 institutions, facilitating 42,918,801 students through 1,598,334 teachers. Education is imparted through 81,544 private and 179,024 public institutions. With 56 % literacy rate, the male to female literacy ratio is 57:43 % (Malik, et al. 2015).

#### *Higher/ Territory Education in Pakistan*

Established in 2002, Higher Education Commission of Pakistan (HEC), oversees territory and higher education in in Pakistan. Out of the total 163 universities in Pakistan, 57 % are public sector universities, whereas remaining 43 % are private sector (Malik, et al., 2015).

#### **Health and Nutrition**

Another desired attribute of HRM is physical health. Therefore, keeping the masses healthy is as important as providing them with basic education. Pakistan's existing network of health services consists of 5320 dispensaries, 650 rural health centers (RHCs), 5527 basic health units (BHUs), and 1096 public sector hospitals. With health facilities, the approximate per one doctor is 1099 persons, one dentist takes care of 13441 persons and for 1647 persons there is one bed in the hospital (Ministry of Finance, 2014). Health infrastructure growth in Pakistan is sluggish and insufficiency of such health services result in very high rates of infant mortality, low life expectancy as compared to other developing countries (Saddiqi, 1995). Out of eight Millennium Development Goals, three concern health and exclusively target Pakistan. According to the UNDP report (UNDP) on progress made on MDGs, Pakistan is likely to achieve 10 of the indicators against the adopted 16 targets and 41 indicators, with remaining targets requiring extensive efforts for its accomplishment.

#### **Need for Innovative Solution**

Pakistan has a huge reservoir of human resource which if properly tapped could take the country into the folds of developed countries

within a short span of time. However, regrettably, the paucity of resources, faulty policies and the criminal empathy of the policy planners has resulted into utter wastage of this precious resource. Pakistan is thus entrapped in a vicious cycle wherein since it cannot allocate sufficient resources for HR Development, the Country is not being developed and since the country is not being developed, hence the share of existing resources for HR Development cannot be increased. Only an innovative and out of box solution can bring Pakistan out of this trap. Besides many other aspects that Pakistan has achieved tremendous development, the pace of development in communication technology is unparalleled. There is therefore a need to take advantage of this technological leap to compensate for the poor educational and HR infrastructure and resource allocation. With its low cost, flexibility and wider access, e-learning is the panacea for the rapid development of HR in general and education in particular.

### **E-learning – a conceptual framework**

E-learning is considered to be a global phenomenon, by a variety of social, economic, and technological forces as well as student demands. Knowledge being key to social well-being and future prosperity, Governments and businesses are endeavoring to increase their capacity to learn and are ensuring a premium on the development of a knowledge based economy. The exponential growth in web technology and resultant development in the e-content development has given numerous opportunities to educators to extend teaching material to students well beyond the traditional class rooms into the comforts of their home all over the world (Sawahel, 2013). Resultantly, e-learning has gained currency in all the leading institutions of the world, institutions like MIT has embraced this format of education (Downes, 2005).

The origin of the term e-learning remains ambiguous, presumably the term originated in 1980, however, by and large Jay Corss is credited with the formal introduction of the term e-learning (Cross, 2004). Evaluating from four different perspectives namely: driven by technology, communication-oriented delivery-system-oriented and educational-paradigm-oriented, Abert Sangra (2001) defined e-learning as “an approach to teaching and learning, representing all or part of the educational model applied, that is based on the use of electronic media and devices as tools for improving access to training, communication and interaction and that facilitates the adoption of new ways of understanding and developing learning” (Harrison, 1996). E-learning includes; lessons are stored and transmitted through CDs or hard drives or internet and intranet servers. It covers material which is relevant to the-learning objective. Content is delivered through media elements like pictures etc. In order to promote-learning, it uses different methods like practice,

examples and feedback (McTighe, 2005). It can be led by an instructor in real time, called *Synchronous* E-learning or organized to suit individual's requirements for self-paced study referred to as *Asynchronous* E-learning (Thorne, 2003).

#### *The Benefits of E-learning*

A fresh look at the potential of e-learning has been necessitated by the impact of credit crunch (Beldhuis, 2012). E-learning is characterized by the flexibility of self-paced learning, having the liberty of choosing the time and place of learning without the hassle of traveling to brick and mortar seat of learning (Salmon, 2013). The wide array of the benefits of e-learning include cost efficiency i.e. reduced delivery cost and learning compression in the shape of reduced training time (Moule, et al., 2008). E-learning offers a faster delivery cycle times as in contrast to traditional classroom, e-learning is not restricted to any fixed number (Perraton, 2012). For example, British Telecom trained its 23,000 employees in only three months, by spending only £5.9m. The cost of training in case of traditional learning would have soared to £17.8 with five-year time required (Taylor, 2002). E-Learning offers an effective mode of learning by providing universal access to the learning platform which can now be accessed even through new modes of delivery like mobiles (m-learning) etc. (Woodill, 2007). Student and teacher involved in e-learning do have almost same levels of satisfaction and achievement as can be achieved in any other form of learning (Cole, 2014). Positive student-teacher and student-student interaction, is reported with higher level of students' satisfaction (Cole, Shelley and Swartz, 2014).

#### *Limitations of e-learning*

E-learning mode is mostly Technology dependent i.e. learners would require access through a computer, with minimum specification as governed by the e-learning supplier. E-learning faces Material Incompatibility at many occasions (Ramayah, 2012). Certain types of trainings, though may be supplemented by e-learning, may not be suitable for through e-learning platform. Initial cost of an e-learning service is at times cost prohibitive, whereas production cost of online training materials is also quite expensive (Cole, 2014). Electronic communication is more linear than face-to-face discussion, f2f interaction remains a dodgy issue. Difficulties in availability of internet at remote rural areas and load shedding are major barriers in implementation of effective e-learning environment in Pakistan (Cole, 2008). Expensive equipment used in e-learning also proves to be a handicap, depriving many students to benefit from opportunities provided by e-learning in Pakistan.

## E-learning in Pakistan

### *Overview*

The “ICT in Education Master Plan– 2007” define the strategies for using ICT in improving student learning, expanding educational opportunities, and developing capacity at all levels (HEC, 2015). The e-Learning initiatives in Pakistan in the territory level of educational stream include; Virtual University of Pakistan (Sherazi and Ikram 2002, Toor 2005), Virtual Campus of COMSAT (VCOMSAT, 2015) and E-Learning stream of Allama Iqbal University (Shah and Saman, 2016).

A number of studies have been carried out in Pakistan to identify the success factors and stumbling blocks. E-learning is being accepted as an alternative to the formal system of education in Pakistan by virtue of its flexibility, cost effectiveness, uniform curricula, exposure to emerging technologies, national integration, technology based instructional methodology and gender equality in attaining opportunity for higher education. The inhibiting factors include perpetual electricity failure (load shedding), lack of availability and interruptions in internet, social isolation, time management, unfamiliarity with IT equipment, English language and fatigue factor (Hussain, 2012; Hussain, 2007; Iqbal and Ahmad, 2010; Jawaid, et al., 2013; Khan and Jumani, 2012; VU, 2015; Qureshi, et al., 2012; Sherazi and Ikram, 2002)

### *Multiple Applications of E-Learning in National Development*

In a resource starved country, huge outlay on educational infra-structure, the pre-requisite for HRD is not an economically viable option. Being low cost solution as compared to conventional education system, e-learning can be adopted by all segments of the society for greater penetration, especially in the lower strata of the society. The flexibility of e-learning can be capitalized for greater coverage and all spectrum of society. In terms of female emancipation, female can acquire education within their homes thus overcoming the social and cultural limitations. The working class would also find it the most convenient form of education for their upper mobility. The wider foot print of e-learning across the county would result into deeper penetration into rural areas as well as remote locations thus obviating the need for laying the cost prohibitive educational infra structure and accelerating national development in the shortest possible time with minimum cost. The technological stride achieved by Pakistan in the form of ICT and digitization of communication infra structure, tele-density, mobile coverage and access to internet can be used to great advantage to enhance HDI and better access to education with minimum infra structure requirement. The technical skills, the bedrock of HRD can be best honed through e-learning by providing world class technical

education to the dwellers of remote areas at their door steps. The increased productivity consequent to the e-learning would give a tremendous boost to the national development. E-learning is the best approach of delivering quality education at low cost while remaining in the four walls of their homes. When brought into main stream through e-learning, both rural and urban population would give a tremendous boost to national development.

### **Recommendations**

Having identified the importance of e-learning in the national development, the stage is now set to proffer certain recommendations for adoption of e-learning as main cog of national development, with the specific focus on HRD in the context of education.

- **National e-learning Strategy:** It is strongly recommended that the Govt. should formulate the national e-learning strategy, which should be inseparably linked to the education policy of Pakistan. The e-education policy should be duly manifested in the “Vision Pakistan 2025”. Rather than focusing on the unattainable increase in the allocation of budget for education, the focus should shift to spread of education through e-learning.
- **Digital Divide:** The ICT revolution of Pakistan should be fully exploited for spread of education and HR development by fostering e-learning for deeper penetration to minimize the urban –rural divide. Further expansion in the internet coverage should be undertaken while keeping the spread of e-learning across the country.
- **Embracing M-Learning:** In view of the exponential growth in the telecom sector vis-à-vis its penetration in the rural areas, all the cellular companies may be compulsorily asked to adopt M-Learning at minimum cost to provide access to low cost education in the remote areas and bring these areas at par with the developed areas so as to eliminate rural-urban divide (Report, 2014).
- **Collaboration with World Universities:** Since all the leading universities and seats of learning have already adopted e-learning, HEC must make endeavours to collaborate with these universities and make world class education available at the door steps of the students. Besides saving in the precious foreign exchange, this would also stop the brain drain and result into rapid national development.
- **E-Tertiary Education:** It should be made compulsory for all the tertiary educational institutions to run conventional f2f education along with e-learning. This would offer cheap alternatives to the



burgeoning youth of the society and prevent radicalization of the society.

- Quality Basic Education: All the leading private premier educational institutions may be directed to concurrently run e-learning form of education by maintain their own LMS for provision of free or low cost education to the pupil of rural areas/ disadvantaged classes.
- E-Technical Education: Massive spread of technical education by resorting to e-education can bring in real developmental revolution in Pakistan.
- E-Agriculture and Rural Development: An e-educated peasant would increase the yield of their crops, thus substantially boost the national development.
- Tele-Medicines: Tele-medicine for the remote areas has gained currency all over the world. The same may be adopted for a healthy society at minimum cost to the national exchequer.
- E-Entrepreneurship: With the increasing tendency of creation of opportunities for self-employment by running own businesses through innovative practices, entrepreneurship is the call of the day all over the world. And digitization has open transformed entrepreneurship into e-entrepreneurship. If properly steered, Pakistani youth can become an important instrument of the national development and prevent radicalization of the society.

### **Conclusion**

National development of Pakistan is not possible without an educated, skilled and trained HR. Through HRD, more educated and more skilled nation can be produced, nations which can make the country developed in the true sense of the word and bring it into the ranks of developed countries.

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