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The Economic contributions of developing e-Learning technologies from the perspective of educational organizations

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Abstract

Developing technologies has necessitated a re-evaluation of certain basic concepts from new perspectives. As such, the concepts of education and learning have evolved beyond their conceptual dimensions into a process redefined by new developments in technology. Through the technological foundations it encompasses, e-learning eliminates the various distances between educational organizations and learning individuals, thus providing fast, economical and flexible learning opportunities. This situation reflects one of the newer perspectives in the information society. In this paper, the economic contributions of developing e-learning technologies for educational organizations are being discussed by the perspective of technology management.

Keywords: e-learning, Educational Organizations , Economics of e-learning

1. Introduction

In the process of restructuring the knowledge society, information and communication technologies have emerged as significant variables. The technology-based change process contains within itself both opportunities and uncertainties (Punie & Cabrera, 2006, pp.9-14). Adaptation for living in an increasingly digital world has become a reality in the 21st century. Being aware of the rapid change process and taking advantage of this new era for meeting all basic needs are the two essential topics that describe the specified adaptation process for all individuals (Bell, 2009, p.10). Globalization and historical development process of distance education will be discussed in the following section.

2. Globalization and Historical Development Process of Distance Education

All organizations have faced a new concept called structural transformation in the last twenty years. In essence, this popular concept refers to a fast, multidimensional and impressive process. This information and communication technologies based structural transformation process requires the developing new perspectives for restructuring the knowledge society. First and foremost, basic characteristics of the knowledge society must be analyzed extensively. The knowledge society is being formed on communication networks. Therefore, the knowledge society is also being called the network society. From a general point of view, the network society is based on networks that are global in

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general (Castells, 2006, pp.1-7). Friedman (2007, pp.9-11), brought a different approach to the globalization process which influenced the world deeply for many centuries. This approach came into prominence as three fundamental eras that is shown in Table 1 below.

Table 1. Three Fundamental Eras of Globalization

Globalization Era	Time Period	Main Features
Globalization 1.0	1492-1800	Countries were globalized
Globalization 2.0	1800-2000	Multinational companies emerged (Companies were globalized)
Globalization 3.0	2000-	Individual global competition and collaboration

Adapted from Friedman, 2007, pp.8-11.

As it can be seen from this table, both the globalization process and its reflections that are described as main characteristics of globalization are being showed as three time periods. The main point of this historical development process reveals itself as paradigms that identify with its time period. The main paradigm of the first globalization era (globalization 1.0) is defined as competition of the countries on a global scale. Globalization 2.0 was characterized as the second main fundamental era of globalization. This era's main paradigm was specified as the global integration of companies on a global scale. The last globalization era differs from other eras. The main paradigm of globalization 3.0 is being connected with both the competition and the collaboration process between the individuals on a global scale. In brief, individuals are being accepted as values that must be developed in order to continue the improvement process for gaining a competitive advantage in the long run (Friedman, 2007, pp.8-12).

Some remarkable and intensive changes can take place in all societies. In addition to this, the process of change could easily be observed in all the subsystems of the community. The economic system as a social institution is the focus point of the change process. Eventually in the knowledge society, the economic system is being reorganized as a knowledge economy (Collis, 2006, p.215). Fast connection facilities have strengthened collaboration and communication for all citizens in the globalized world (Solomon & Schrum, 2007, p.8).

Moore & Kearsley (2005, pp. 24-44), discussed the historical development process of distance education as five fundamental eras and this is shown in Figure 1 below.

- 1 • Correspondence Study Era
- 2 • Broadcasting Era
- 3 • Open Universities Era
- 4 • Teleconferencing Era
- 5 • Internet Era

Figure 1. Historical development process of distance learning

This figure also reflects the evolution process of distance learning. When Figure 1 is being analyzed, the first era specified is the correspondence study era. The most important features of this era are text based communication and instruction that was focused on postal correspondence. When the second era is being examined, broadcasting of television and radio make a big contribution to learning and teaching processes. The open universities era is accepted as the third era and is specified as the historical development process of distance learning. This period reflects the organizational development process of distance education through new approaches. Open universities are the new organizational structures that were characterized as a new perspective. The next era is called the teleconferencing era. Especially real time interaction of students via video and audio conferences reflect a significant transformation process for distance education. Computer networks and satellites are the main variables that make the distance learning process effective in the teleconferencing era. In conclusion, the fifth era of distance learning is called the internet era. The most prominent feature of this period is considered to be internet technologies. Both the learning and the teaching processes are being carried out using online processes (Moore & Kearsley, 2005, p.24).

Both online learning and e-learning which are being used as general concepts involves some variables together. Interaction, information and communication technologies, individual and collaborative learning and support are some of the main approaches which are being integrated to e-learning process. (Clarke, 2004, p.2). As a result, e-learning can be described as a form of distance education (Rosenberg, 2001, p.29).

3. Technology Management for Educational Organizations from the Perspective of Economics of Education

Today, both the knowledge society and knowledge economy are rapidly emerging and among the most commonly used definitions for many. These two definitions are focused on an indispensable concept that is called knowledge (Sörlin & Vessuri, 2007, p.1). In the 21st century, our globalized world is being built on knowledge (Lombaert & Lambrecht, 2006, p.627).

Economics of education as a new field of study has been increasingly gaining importance. One of the most important reasons for this is being described with the importance of two keywords: training and education. These two complimentary concepts have a strategic role for all countries in the globalizing world (Dustmann, Fitzenberger & Machin, 2008, p.1).

Daniel (2010, p.51) indicated the importance of using appropriate technologies for educational organizations by illustrating a triangle and this triangle is shown in Figure 2 below.
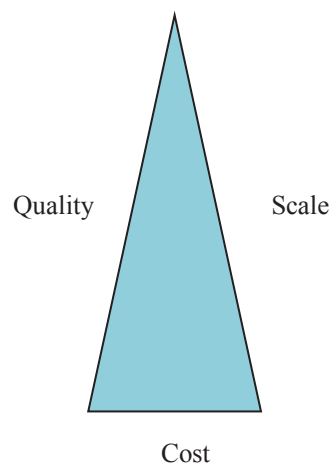

Figure 2. Triangle of Using Technology

When Figure 2 is analyzed, it can easily been seen that this triangle is an isosceles triangle. This isosceles triangle of using technology consists of three edges. These edges are designated as quality, scale and cost. This isosceles triangle also reflects a decision making process for choosing the appropriate technologies for educational institutions (Daniel, 2010, pp.50-52). The scale edge of this triangle reflects effective providing of educational services to all students with wide access. This edge also indicates combining students and technology with distance education (Daniel, 2002, pp.8-13).

Another aspect is assuring quality in distance learning by conducting training needs assessment for all distance learners. This is the second main edge of this triangle that is specified as quality. Distance learning processes should be conducted by taking into consideration a main idea called cost-effectiveness. This edge is being represented as the base of the isosceles triangle and is designated as cost. Finally in the process of choosing the appropriate technologies for all educational institutions, one point should not be ignored. The quality and scale edges of distance learning services must be increased while simultaneously reducing the cost edge. This fact represents the real isosceles triangle of using technology in educational organizations (Daniel, 2010, pp.50-52; Daniel, 2002, pp.8-13).

Conclusion

In the nineteenth century, investing for physical capital was very important in the economic development process of all countries. However in the twentieth century, which was characterized by the knowledge society, investment in human capital became an indispensable reality. In other words the twentieth century has been accepted as the human capital century (Goldin & Katz, 2008, pp.11-13).

All educational organizations have faced the intensive process of change in recent years. Therefore, the concept of change management is very important for all schools in the process of attaining educational purposes. School principals, as change agents, have great responsibilities in this process (Lunenburg & Irby, 2006, pp.244- 245). Technology is one of the most important variables for the process of change that has emerged in more recent times. Schools as social systems are being affected from this rapidly emerging technological change process. Under these circumstances, all schools need school leaders and effective school leadership (Creighton, 2003, p.87).

Technology management is not merely a process that can easily be described as explaining innovation and existing and new technologies. This new concepts also contains the impacts and the diffusion process of new technologies for all organizations (Bruton & White, 2011, p.12). Costs are defined as strategic concepts in the process of technology management. Furthermore, when the definition of costs is deeply analyzed, it can clearly be seen that the definition covers a scope beyond the price of technologic equipment and software. Cost structures of technologies also involve maintenance, the upgrade process, and support (Solomon & Schrum, 2007, p.129).

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