ADVANCED EDUCATIONAL TECHNOLOGIES AND BUSINESS ENVIRONMENT[*]

Petruța BLAGA[**]

ABSTRACT: *Global organizations have become more and more informed and more demanding in identifying and selecting the best suppliers for technological infrastructure, for courses, services and implementations.*
With the global development of new information and communication technologies, they will have to be applied in more and more countries, in more languages and in more and more cultures. Dissemination of knowledge through books, articles, research, professional organizations, conferences, seminars, courses will increase as new concepts and new technologies will be implemented in organizations in order to improve the training and through this to increase the efficiency of their own human resources.
Younger generations that grew up in the digital age will require more interesting, exciting and entertaining learning experiences that are consistent with the way in which they collaborate, work and learn. The E-learning technologies are becoming more and more accessible, e-learning can be used on more and more communication devices.

KEYWORDS: *organizations, human resources, training, educational technologies, E-learning*
JEL CODE: *I25, O15*

Highly qualified human resources, with a high level of education, having the ability to adapt to new technologies and the changing needs of the markets, are essential for a competitive and dynamic economy (International Labor Organization, 2000).

In the present competitive context, training of human resources is important for increasing performance and developing an organization. The assessment of the specific training needs of each job and employee, correlated with the most modern training techniques, becomes part of the firm's strategy.

In the current information society, the way in which knowledge is accessed and transmitted undergoes profound mutations. Information has always represented an

[**] Professor, Ph.D, Faculty of Economics and Law, University of Medicine, Pharmacy, Sciences and Technology of Targu Mures, ROMANIA.

important component of education. The way of transferring knowledge has become more dynamic, being supported by tools of Information Technology and Communications (IT&C). Thus, currently, the role of instructors has changed and there are more and more discussions about intellectual property, copyright, information credibility, or opportunities to reduce the cost of information.

The e-learning training involves the use of IT&C in the educational process and is one of the first specific activities of an information society, which has experienced a real explosion together with the development of the Internet (Stockley, 2003).

The introduction of e-learning courses in organizations can be a complex process that sometimes overlaps with a series of other difficulties and for this reason, it is important that this process be argued both from an educational point of view and from a financial point of view.

Although the benefits of e-learning technology in organizations must be adapted to each specific case, it is a fact that quality e-learning programs and courses allow more flexibility for both employers and employees, since learners can reduce the time spent on such training; they may be trained when it is needed in the company and when there are adequate study materials; e-learning technology allows learners to study in an independent manner and when time allows them (Blaga, 2012).

1. THE FUTURE OF E-LEARNING DEVELOPMENT

The future of e-learning development can be seen from the perspective of the following trends

- ***E-learning and business environment***
The positive impact of e-learning on the business environment has been identified by the first e-learning users who have explored various applications of this new learning methodology. The business objectives that can be influenced through e-learning are (van Dam, 2004):
  - the promptness of launching new products and services on the market;
  - rapid implementation of new information systems and business processes;
  - compliance with legal regulations;
  - increasing the efficiency of employees adaption to organizational changes;
  - global integration of the workforce and the creation of a strong organizational culture;
  - improving leadership and boosting business development;
  - increasing sales by training human resources in sales;
  - loyalty of customers and suppliers through training and presentations about products and services offered.

  In order to convince the management of the organizations of the usefulness of e-learning training, the primary objective of e-learning must be to increase the profitability and market value of the organization. This involves the correlation of e-learning with business development and the highlighting realistic proposals for future e-learning investments.

• *E-learning solutions*

In the first wave of development, e-learning focused on designing courses content (*online education*) and on developing skills (*online training*). In the present, organizations need new *online learning solutions* (Carliner, 2004), namely (van Dam, 2004):

− Online solutions for performance evaluation *(Performance Support Solutions)*: allow to improve employee performance at the workplace by: supporting employees at the workplace, online tutorials, integrated systems.

− Online solutions based on information and knowledge *(Online Information and Knowledge)*: aim to improve access to documents and analyses, which provide data on employees' activity.

− Collaborative online solutions *(Online Collaboration)*: allows sharing of learning resources, supported by a variety of tools such as: e-mail, messenger, chat, electronic whiteboards, application and document sharing, web meetings and file transfer.

In the future, online learning solutions will be based on online learning management, which involves guiding, facilitating, and managing online the learner learning. It creates a learning experience and supports the learning process by: recording the learning process, tracking learning, setting up solving topics, evaluations, guidance, tutorial.

Starting from face to face learning, instructors should consider the full range of educational options and capabilities and be able to apply e-learning technologies, tools and methodologies to create dynamic and effective learning solutions (Watson, 2010).

At present, there is a number of trends for the integration of e-learning solutions (van Dam, 2004):

− Learning programs that are currently implemented through: PowerPoint presentations, electronic documents, books, CD-ROMs, audio tapes and videocassettes will be transformed into e-learning solutions.

− Face-to-face training (classroom-based training) will be reconsidered and will become part of the blended learning programs (Hadjerrouit, 2008).

− Many online courses will be available for various areas and applications. Some courses will become available for free, which has a positive impact on course prices. However, the most requested e-learning courses will not be free. Therefore, demand for the design and development of personalized courses will increase significantly.

− Personalized development of courses content requires qualified specialists. Thus, for the design and development of such e-learning courses, it is very important to have people with serious training and a strong professional and pedagogical experience (Vlada, 2003). Because of the lack of professionals with such skills, limitations of the number of employees and the cost-cutting efforts, a significant part of the customized design of e-learning courses will be outsourced to specialized manufacturers who have as their basic competence the design of e-learning courses.

− Once with the generalization of e-learning in countries with different cultures, there will be a growing need to locate the educational content, by which it is intended to adapt it to the learner's experience and culture.

− Younger generations that grew up in the digital era will require more exciting and entertaining learning experiences that are consistent with the way in which they collaborate, work and learn. Learning based on games and simulation is certainly a strong trend in the future.

- ***E-learning implementation***

Several trends in e-learning implementation can be identified (van Dam, 2004):

− Organizations have become much more informed and demanding in identifying and selecting the best providers for e-learning technology infrastructure, for courses, services and implementations.

− E-learning technologies are becoming more and more accessible, e-learning can be used on more and more communication devices, such as smartphones (iPhone), PC tablets (iPods) etc. High-speed wireless internet will be available in many places and geographic areas through Wireless Fidelity (WiFi) technologies, making it easier for learners to access e-learning training anywhere (Kearsley, 1996).

− The emphasis will be put on the integration of the e-learning phenomenon globally. For example, online assessment, online training, mentoring and learning will be more and more integrated into the dynamics of business processes.

− The use of e-learning and the ratio between the number of enrolled trainees and the number of e-learning course graduates will continue to be challenges for most organizations. Since employees are generally very busy, an eLearning-based training program may become just another problem to solve in a program which is already over-demanding. Thus, in order to successfully implement an e-learning strategy (Rosenberg, 2007), it is important to implement elements of easy e-learning use.

− For the development of course content, outsourcing of maintenance, administration and integration of e-learning proved to be a good solution.

In the future, there is an important influence of e-learning on the business environment, and e-learning solutions based on modern technologies and e-learning implementation will continue to sustain a significant increase of e-learning globally (van Dam, 2004).

E-learning is a key element in human resources training and in the possibility of taking up new jobs. By modernizing business processes, companies will develop strategies in the future (Khan, 2005), programs and portals for employees in which we can find the followings:

• Evaluation of employees (often called Employee Relationship Management - ERM), which focuses on employee performance using communication technologies in organizations, e-mail, learning, knowledge management, and performance and competence management.

• E-HR – Electronic human resources, which is a human resource function dealing with the use, management, regulation of the information and electronic processes within an organization, such as: online recruitment services, payroll, career development.

• Portal for human resource training, security elements, standards etc.

While companies are increasingly using e-learning as part of the wider employee performance initiatives, the focus will be on integration, maintenance and on a new level of expectation of the effects of human resource training.

With the global development of e-learning, it will have to be applied in more and more countries, in more and more languages and in more and more cultures (Delors, 2000). The dissemination of knowledge through books, articles, research, professional organizations providing e-learning, conferences, seminars, courses, workshops will increase as new concepts and new technologies will be involved in e-learning based training.

2.   TRENDS IN E-LEARNING

As a result of reducing the cost of implementing e-learning, many governments, organizations and educational institutions have extended their educational portfolio by adding online courses and other forms of distance learning (Holden & Westfall, 2009). Taking into account the e-learning trends, the opinions of the most influential e-learning experts and the most critical elements of the organization's strategies, important decisions can be taken regarding the use of e-learning within organizations.

Based on research done by Gartner Group, University of Pennsylvania and other prestigious organizations, some major trends can be identified that will influence the future development of e-learning:

• *Application providers offer new functionalities that enable the management of organizations to carry out a rapid decision-making process regarding the need of implementing e-learning programs.* Governments, companies and educational institutions can purchase directly or by leasing e-learning systems. Small budget organizations can implement Open Source e-learning platforms.

• *Companies integrate e-learning into their infrastructure.* In many organizations, the Intranet is implemented at departmental or organizational level to increase productivity and communication, managers being more aware of the benefits of implementing e-learning programs in order to train human resources (Henderson, 2003). Developers can easily integrate e-learning courses in communication, while the human resources managers may add other e-learning courses for human resource development that will allow them to learn at work.

• *Increasing the quality of human resources through training requires e-learning initiatives.* Because the work environment and daily tasks evolve more rapidly than the rhythm at which the educational institutions manage to produce qualified candidates for employment places, many employers are based on training at the place of employment, in order to remain competitive. E-learning programs help organizations to raise the level of skills of their own human resources without the need for traditional face-to-face training (Blaga & Gabor, 2016).

• *E-learning reduces the cost of educational content.* By developing virtual learning environments, e-learning programs can reduce participation costs (Hjeltnes & Hansson, 2005), allowing the involvement of specialized lecturers, researchers and tutors.

• *E-learning provides human resource training independently of the geographical area.* Today, e-learning connects students from rural communities with urban experts and vice versa. The first effects that this type of education has on business and industry in developing countries are already noticed. Small businesses can also access quality information that until recently was available to companies of the world with large human resources budgets (Hosseini, 2006).

• *Simulation and educational games are the elements that will provide a dynamic and interactive future for e-learning.* Employers can train their human resources using educational simulations and games, without risking any damage to the firm or affecting the quality of production. Human resources can develop skills and learn best practices by participating in various simulations. E-learning programs that include simulations and

educational games help increase staff morale, thus reducing the time needed to develop new skills for staff.

• *Governments implement e-learning at all levels.* Along the business environment that use e-learning, governments around the world have discovered that e-learning programs can improve the quality of citizens' lives, while reducing the financial burden on taxpayers. Educational institutions serving rural areas or peripheral urban neighborhoods can rely on e-learning to compensate for the lack of qualified teachers in those areas (Horton, 2000). The state university education can maintain talented students who are tempted to go to other higher-rated universities. The governments of the developing countries have invested heavily in e-learning programs in order to achieve a highly qualified workforce (The World Bank, 2003).

• *Implementing e-learning programs creates communication facilities.* E-learning systems allow employees to share their vision and business strategy. Employees can quickly learn about how techniques and technologies operate. Thus, outsourced and service departments can serve customers in a transparent manner, while the producers can satisfy the request of the end-user demand through an optimal response time.

• *Wireless technology positively influences e-learning technology.* Until the appearance of distance learning programs that have allowed the training of human resources in any geographical area of the world, instructors and trainees were obliged to travel to specialized educational centers (Jalobeanu, 2002). At present, wireless technology allows instructors to transmit information in any part of the world. Through radio, satellites and Wi-Fi signals, people can benefit from a multitude of learning opportunities.

• *Contradiction between e-learning promoters and opponents.* E-learning will continue to be subjected to the pressures exerted by opponents and promoters of this educational technology (Dobre, 2010). Traditional face-to-face education in the classroom is a reality that is significant in the human resources training, even if in recent years, thanks to technological development, e-learning is gaining more and more ground.

3. CONCLUSIONS

This paper aimed at highlighting the importance and trends of an important educational technology used in the business environment - e-learning, as well as its role in improving the management process which affects the e-learning development and implementation in the organizational environment. It can be argued that under conditions of a good analysis of the context and the organizational resources, e-learning can be implemented and used as an efficient management tool in the training of human resources of organizations.

The paper tries to provide a set of information necessary to use this educational technology in the field of human resources training in organizations in order to evaluate the efficiency of human resource training courses through e-learning.

This information can be helpful in addressing issues related to:

REFERENCES

Blaga P. (2012), *E-learning – a new paradigm for education and training of human resources,* The Proceedings of the Communication, context, interdisciplinarity Congress, "Petru Maior" University of Tîrgu Mureş, Romania, 2: 1173-1177

Blaga P., Gabor R. (2016), *Evaluation of the e-learning program impact over organizations in the Romanian pharmaceutical industry,* Indian Journal of Pharmaceutical Education and Research, 50(4): 517-529

Carliner, S. (2004), *An Overview of Online Learning*, HRD Press, Inc., Massachusetts, United States

Delors, J. (2000), *Comoara lăuntrică. Raportul către UNESCO al Comisiei Internaţionale pentru Educaţie în secolul XXI,* Polirom, Iaşi

Dobre, I. (2010), *Studiu critic al actualelor sisteme de e-learning,* Academia Română, Institutul de Cercetări pentru Inteligenţă Artificială

Hadjerrouit, S. (2008), *Towards a Blended Learning Model for Teaching and Learning Computer Programming: A Case Study*, Informatics in Education, Institute of Mathematics and Informatics, Vilnius, 7(2): 181–210

Henderson, A. J. (2003), *The E-Learning Question and Answer Book. A Survival Guide for Trainers and Business Managers,* American Management Association – AMACOM, New York

Hjeltnes, T. A. & Hansson, B. (2005), *Cost Effectiveness and Cost Efficiency in E-learning,* Quality, Interoperability and Standards in e-learning (QUIS), TISIP Research Foundation, Trondheim, Norway

Holden, J.T., Westfall, P.J.L. (2009), „An instructional media selection guide for distance learning", *United States Distance Learning Association,* United States of America: 5-8

Horton, B. (2000), *Designing Web-based training: How to teach anyone anything anywhere anytime,* John Wiley & Sons, New York

Hosseini, N. D. (2006), *Lifelong learning and the knowledge society: challenges for developing countries*, Journal of College Teaching & Learning, 3(12): 79-84

International Labor Organization – ILO (2000) „Conclusions concerning human resources training and development", *The General International Labour Conference,* 88th Session, Geneva, para. 5

Jalobeanu, M. (2002), *Invăţământul la distanţă şi instruirea prin Internet. Istorie, evoluţie, estimări*

Kearsley, G. (1996), *The World Wide Web: Global access to education*, Educational Technology Review, Winter (5): 26-30.

Khan, B. H. (2005), *Managing E-Learning Strategies: Design, Delivery, Implementation and Evaluation,* Idea Group Inc., United States of America

Rosenberg, M. (2007), *The eLearning Guild's Handbook of e-Learning Strategy,* The eLearning Guild, California

Stockley, D. (2003), *What is e-learning?*, Derek Stockley Pty Ltd

The World Bank (2003), *Lifelong Learning in the Global Knowledge Economy: Challenges for Developing Countries,* The International Bank for Reconstruction and Development / The World Bank, Washington, D.C.

van Dam, N. (2004), *The E-Learning Fieldbook: Implementation Lessons and Case Studies from Companies that are Making e-Learning Work,* McGraw-Hill, New York

Vlada, M. (2003), *E-Learning și Software educațional*, *Noi tehnologii de e-learning,* Conferința Națională de Învățământ Virtual, Software educațional, Editura Universității din București

Watson, J. (2010), *Blending Learning: The Convergence of Online and Face-to-Face Education*, Promising practices in online learning, North American Council for Online Learning - NACOL