# STUDY OF INFORMATION TECHNOLOGIES AS AN ELEMENT OF COMPETITIVENESS ON THE CURRENT LABOR MARKET OF UKRAINE

## M. V. Gvozdenko

**Abstract**: *The article deals with the changes in the modern labor market, caused by the extensive use of information technologies in all sectors of industrial, scientific and educational activities. The conclusion is that the education system must take into account the changes in the labor market. Proposal to extensive studying of information technologies from secondary schools are substantiated. Motivation to the study of computer technology in secondary schools is given Labor market prospects of the development of labor market of IT – specialists are specified.*
**Keywords**: *education, labor market, increasing the efficiency of production, information technologies, IT- specialists.*

The education system is a model that combines the institutional structures (school, university, college, etc.) which main aim is education of students who study in them. In this definition there are no answers to the important questions: why and what to teach? One of the main goals of education is to provide conditions for the preparation of the individual to the quality performance of their professional duties in the interests of the individual and the society[1].

At a certain age, each person makes a choice in favor of one or another specialty that meets his inclinations and abilities, but at the same time his future professional activities must meet the demands of the society in which the individual lives and gets education. The educational system of each country develops over many centuries. It is in constant development and takes into account the development needs of the society and the country. The development of the education system is influenced by the social system, the level of scientific and technological development, the state of the economy, the

---

[1] *Маркова А.К., Т.А. Матис, А.Б. Орлов. Формирование мотивации учения, М. Просвещение, 1990.*

state policy in the field of education, religion, traditions and customs of the country.

The modern system of education, more than any other branch of human activity, should be promptly and adequately respond to the social, economic, scientific and technical needs of the society and, furthermore, to predict them and train professionals to meet these requests.

Traditional education was formed in response to the rapid development of science and, therefore, in need of society for specialists in the fields of chemistry, physics, biology, mathematics, etc., while today the widespread use of computers and network technologies have made significant changes in the needs of the community in various specialties, and modern traditional specialties require additional training in the field of information technologies.

The modern stage of development of post-industrial society requires major changes in the educational system.

Today, the well-being of developed countries is not determined by the presence and the amount of natural resources, but the development, use and sale of high technology. The most developed and rich countries receive more than two thirds of gross domestic product by the developed countries in these high-tech processes, which are used as means of increasing the efficiency of production, and as a rather expensive product, the sale of which brings considerable profit.

Due to the global implementation of information technologies in all areas of industrial activity, much of the existing professions are losing their popularity, they go into the category of unclaimed , and experts traditional industries require additional thorough training in the field of information technologies to perform their professional duties, that is, the development of information technologies led to significant quantitative and meaningful changes in the various fields of industrial activity[1]                                                                  :
- The sphere of education - the use of local area networks in education and distance learning have significantly changed the role of the teacher in the learning process, shifting the emphasis to the development of

---

[1] *Волкова Е.В. Рынок труда: Учеб. пособие. – К.: Центр научной литературы, 2007. – 624 стр.*

training materials , development of visual aids using multimedia , preparation of test items, etc.

- Medicine - the use of computerized diagnostic systems, the application of computer technology to perform a variety of analyzes, methods of treatment using computerized aids significantly improved the quality of diagnosis and treatment,
- Banking - system of ATMs, banking, online payments significantly reduced the need for cashiers and middle managers in the banking system,
- Taxation - using information technologies a huge number of specialists in various fields, without changing their country of residence, are actually working on foreign employers
- The media – even today the bulk of the mass of information is received by the user on news and topical portals that affects to traditional print media,
- Library science - despite the active struggle for copyright compliance, more full-text editions of textbooks and works of fiction are posted on the Internet for free use , or use for a small fee, which receives not the author of the work, but the owner of the site,
- Legal action - the use of information technologies on the one hand gives lawyers a convenient and reliable tool for increasing the efficiency of their professional activities, but on the other - gives rise to new types of crime, the investigation of which requires advanced knowledge of computer hardware and IT- technologies
- The tourism business - networking technologies have made a significant part of the tourism market : hotels and tickets booking through the Internet have excluded hundreds of tour operators,
- Promotional activity - the use of networked information technologies can attract attention to a product or service of an incomparable more potential customers than traditional advertising media ,
 - Security activities - security activity today is successfully performed by biometric identification , video cameras, electronic security systems which are gradually replacing from the traditional market with security firms employed security guards,
  - Trade - selling of a variety of goods and services through online stores that now provide a wide range of goods and services, even for those segments of the population who can not get them on the place of residence in the traditional form. Today, online shopping causes

significant damage to the traditional trade and services. Finally, the very activity of IT - specialists is a huge and rapidly growing sector of the labor market that is becoming increasingly differentiated and requiring more and more specialists[1].

And of course, the role of information technologies is invaluable in training and self-education. These are information technologies the provide access to the necessary information, provide an opportunity to receive advice of colleagues from different parts of the globe, to exchange views and discuss issues, which are of interesting to several parties.

One could cite many such examples, but the conclusion is clear: the changes in the labor market caused by the massive use of information technologies, forcing the education system to take into account the needs of modern society and to respond to them. In Ukraine, the fifth of young people between the ages of 15 and 24 are not involved in education or in the production activities. High unemployment among young people is due not only to the economic crisis, but also the lack of necessary knowledge and skills for employment.

Today's labor market in Ukraine is in need of workers specialties and specialists in the field of IT- technologies. And if the lack of skilled workers in Ukraine is a topic for another conversation about the vocational training system, which in recent years has been practically destroyed, and the restoration of which will require several years and considerable resources, training in computer technologies, which are currently required in any field of human activity, including workers is specialties a serious problem in modern education system, called upon to prepare people for life in a high competition on the labor market.

The study of information technologies requires both extensive knowledge and creativity, independence in performing specific tasks, the ability to make decisions based on data analysis, develops independent thinking and initiative.

Despite the fact that the computer has already been a common household appliance for a long time and advanced pupils and students

---

[1]     *http://www.dcz.gov.ua/control/ru/publish/article?art_id=290681 &cat_id=10046211*

spend a lot of hours in front of it every day, saying that they know how to operate a computer is too optimistic, because texting, social networking, computer games and even search for information, which they use to compose essays, term papers and tests which they hardly understand, can not be called the work at the computer. Most of the " aces " of computer games become helpless, getting rather simple task: to make the document, to create a macro, to perform a spreadsheet, analyze data tables, create a summary table, to protect the file, to perform the work on a document with a group of co-authors, to illustrate a set of data with a diagram, to develop a simple web site, etc., and in fact all of these tasks, not to mention the more complex ones elements of simple office work and one should know them even from school.

It is clear that the study of science must begin at least from the middle years of secondary school and include both learning the basics of modern computer hardware and technical principles of operation of computer networks, as well as the classification and formation of computer software and computer networks, work with office applications, the basics of information security, Internet services, and basic programming.

When the sequence of studying of the material is compiled methodically correctly, it involves logical coherent transition from the simple basics to more advanced concepts, programs and tasks. Then, training of information technologies does not cause any problems for the students.

The study of information technologies is so clear, and the interface of modern software is so adapted to the intuitive perception that having learn the basics and identify patterns of using of multiple software tools, the student can move independently in the study, which develops his/her initiative and creativity.

Specially designed manuals and reference system of each of software program contribute to the facilitation of learning material. With sufficient experience of using the help system, having received information about the functionality of specific software tools and specific task on its use, the student could easily cope with the task of his own, which would raise his self-esteem and motivation to study information technologies.

The motivation for the study of information technologies is evident and very high[1]:
- Competitive advantage to enroll in college and work;
- A high level of income in the area of information technology ( who has not heard about Bill Gates or Mark Zuckerberg!)
- The use of information technology in the study of other academic disciplines in any professional activity,
- Prestigiousness of knowledge and computer's skills and network among the youth.
And most important is the rapid development of IT- technologies and the ever-growing need of the labor market of the IT- specialists[2]. Ukraine is the fourth in the world in the number of certified IT-specialists after the United States , India and Russia , according to the annual report of the National Commission, which carries out state regulation in the field of Communication and Information of Ukraine, citing the of study Exploring Ukraine IT Outsourcing Industry in 2012.

According to the study of Exploring Ukraine IT Outsourcing Industry 2012 Ukrainian universities annually to produce about 16 thousand professionals in the field of information technology, but only 5.4 million of them are employed in their field.

However, the fields of IT professionals are the most popular candidates in the labor market: one specialist in this area can account for up to five vacancies.

The total number of IT- specialists of the Ukraine at the end of 2012 amounted to more than 215 million people, about 25 million people of whom are certified programmers working for export. In 2015, it is expected that the number of new jobs in IT will reach 168.5 million, of which 106 million work in the IT- exports, 62.5 thousand work in the domestic market. 350 thousand professionals ( in the will be employed in the area of information technologies in Ukraine will employ export sector - about 125 thousand people, domestic - about 225 thousand), and the industry's growth in 2015 will reach $ 5

---

[1] *Маркова А. К., Т. А. Матис, А. Б. Орлов. Формирование мотивации учения, М. Просвещение, 1990.*
[2] *Скороходова Н.Ю. Психология ведения урока. С.Пб. Речь, 2002.*

billion estimated by the World Bank in 2015, Ukraine can go to 6th place in the world in terms of IT exports. Internal IT segment will also grow at lower levels - 5.10 % per year.

**Conclusion:** Taking into account the dynamics of the industry, the needs of the state in the IT- specialists will continue to grow. Therefore, we need additional incentives to keep this development, to reduce the imbalance in supply and demand of highly qualified professionals, to stop the outflow of them abroad. Meet the demand in the IT personnel is impossible only by increasing the recruitment of applicants. This is only a partial solution to the problem, because the course lasts for an average of 5 years. The growing need for staff can be solved by improving the skills of professionals training, the second higher education.

**References**
1. Державне регулювання у ринковій економіці/ А. Н. Ластовецький/ Підприємництво, господарство і право/ Київ - 2003 р. №6.
2. Державне регулювання економіки: навчальний посібник/ С. М. Чистов, А. Є. Никифоров, Т. В. Куценко/ Київ - 2005 р.
3. Державне регулювання економіки: навчальний посібник/ Л. І. Дідковська, Л. С. Головко/ Київ - 2002 р.
4. Г.И. Купалова Теория экономического анализа: Учеб. пособие.- К.: Знание, 2008.- 639 стр.
5. Либанова Э.М. Рынок труда: Учеб. пособие. – К.: Центр научной литературы, 2003.-224 стр.
6. Волкова Е.В. Рынок труда: Учеб. пособие. – К.: Центр научной литературы, 2007. – 624 стр.
7. Скороходова Н.Ю. Психология ведения урока. С.Пб. Речь, 2002.
8. Маркова А.К., Т.А. Матис, А.Б. Орлов. Формирование мотивации учения, М. Просвещение, 1990.
**Internet sources**:
1. http://www.hrd.com.ua/
2. http://www.work.ua/
3.http://www.dcz.gov.ua/control/ru/publish/article?art_id=290681&cat_id=10046211
4. http://www.management.com.ua/