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# PROFESSIONAL FORMATION OF IT SPECIALISTS IN UKRAINE IN THE ERA OF GLOBALIZATION: DEVELOPMENT, ACHIEVEMENTS, PROBLEMS AND PROSPECTS

The IT sphere in Ukraine is one of the most dynamic and promising industries. It has long been called the locomotive of the Ukrainian economy, but it was not always like that. Historically, our country has always been a center of software development and technological solutions. The level of education, which has been developing in Ukraine for decades, is extremely important. Universities, with the support of business, launch educational programs in the most promising areas of IT – Internet of Things, Artificial Intelligence, Data and Computer Science (Овчаренко, 2020).

The Ukrainian IT industry began its active development with outsourcing, which gave a boost in difficult times for the post-Soviet space. In the late 1990s and early 2000s, the first outsourced IT companies such as ELEKS, SoftServe, Miratech and others entered the domestic market. Foreign corporations were just beginning to discover Ukraine, so they outsourced only some of their functions, usually those that did not require in-depth technical expertise. At the same time Ukrainian developers were distinguished by the professionalism and quality of their services, so they began to move away from the word *outsourcing* and renamed their services to *IT service*. Foreign technology corporations estimated a strong potential in Ukraine and began to transfer not only some of their functions to Ukrainian developers, but also the development of innovative technologies with integrated solutions.

The next stage of evolution was service consulting.Ukrainian IT companies offered a comprehensive solution to the client's business problems, focusing on an individual approach. Since then, the number of IT professionals in the country has begun to grow sharply: from 89 thousand professionals in 2015 to 190 thousand in 2019 (Овчаренко, 2020). Today Ukrainians can create, promote and sell IT products on the world markets. They are interested in their active development.

IT ecosystem of Ukraine is particularly conducive to the development of the technology industry. At the regional level, businesses are merging into IT clusters, where they create the necessary conditions for growth and whrer they actively support each other. A report from UNIT.City and the Western NIS Enterprise Fund states that more than 20 Ukrainian cities have now set up their own local IT communities. Association «IT Ukraine» is the largest association of IT companies in Ukraine, which operates throughout the country. It includes more than 60 leading domestic specialists. The IT committees in the American Chamber of Commerce (ACC) and the European Business Association (EBA) also play an active role in this process. Thanks to these organizations, we are able to lobby the interests of the entire Ukrainian IT community, train newcomers and support startups (ТОП-7 винаходів українців, які презентували на Lviv IT Areni. (б. д.)).

In the era of the fourth industrial revolution, the world is moving from an analogue paradigm to a digital one. People are increasingly using digital solutions, so investments in IT are increasing as well. Worldwide IT spending is projected to total \$4.6 trillion in 2023, an increase of 5.1% from 2022, according to the latest forecast by Gartner, Inc. Demand for IT in 2023 is expected to be strong.

The industry lacks qualified specialists, while the complexity of IT projects and solutions is growing. In order to remain in demand, it is important for engineers to master their skills. After all, experienced specialists can solve complex problems and deal with them more efficiently. In conclusion, in order to remain competitive and

continue to develop rapidly, the IT business needs to invest in the training of specialists and help improve the skills of both experienced engineers and novices.

Ukraine, without any exaggeration, can be proud of Ukrainian IT specialists. Many large foreign companies use the services of our fellow citizens. Ukrainians are developing applications and programs that are known in many countries and can compete with the world's giants. *Petcube*, for example, is one of the most world-famous devices invented by Ukrainian IT specialists. This is an electronic cube that allows pet owners to play at a distance and communicate with their pets with a laser pointer so that they do not get bored. The peculiarity of *Swimmerix*, the other device, is that it is designed for swimmers and it adapts to the characteristics of each organism. It consists of a wristwatch and a basic device that easily clings to the wall of the pool, or remains on the side. The devices are synchronized, so the biometric data of the swimmer is read, so he will not have to be distracted during practice to measure the data. Moreover, the device indicates the correctness of the movements. The resulting data appears in the application, synchronized with the devices. And *Smart Home* technology is a set of devices for safety and convenient management of the house. The system consists of a Wi-Fi router «DIGI24» and a set of sensors that are synchronized with the application. The lighting, temperature and humidity are adjusted remotely, and it is posiible to control appliances, as well as monitor traffic from the house (ТОП-7 винаходів українців, які презентували на Lviv IT Areni, б. д.)).

Technology is penetrating business faster, and digitalization and automation have become a necessity. Industrial Revolution 4.0 is helping to innovate in manufacturing and change the role of the technician in processes. Machines complete tasks and humans control them. According to a report from the World Economic Forum (WEF) increased automation is driving businesses to invest more in cloud computing, machine learning and data science (ТОП-7 винаходів українців, які презентували на Lviv IT Areni. (б. д.)). New demanded professions also appear and

the criteria for the existing ones are changing. Nowadays specialists are expected to have high analytical skills and the ability to work with big data, as well as build a product architecture and quickly solve problems (Aggarwal, 2018, 275).

With the development of automation in business, people will have more resources and freedom to solve complex strategic problems, and they will be less involved in routine. Technology is already changing the reality of business and influencing the global economy, becoming its driver. And the Ukrainian IT industry is developing and making its big contribution to digital transformation, strengthening the country's technological position on the world stage.

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