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TOPIC ISSUES IN IT: THE PRESENT AND PROSPECTS

The IT industry is developing at a rapid pace today. This sphere is the most developed and the largest segment of innovative economy in Ukraine, which constantly demonstrates positive dynamics and growth prospects. The domestic IT community and international consulting companies predict that over the past 4-5 years, the annual growth of the industry will average at least 25%, with the preservation of such indicators at least in the short term.

The growth of indicators is observed in two sectors — the sale of IT products in the domestic market and IT outsourcing (software development and sales, and IT services). Today, the IT sphere is one of the most investment attractive sectors of the Ukrainian economy.

Unfortunately, the IT industry has problems of a global nature and less significant ones. The first problem is market imbalance. On the one hand, there is a growing shortage of professionals and a steady increase in wages, on the other hand — a surplus of specialists with insufficient qualifications. It leads to an increased competition for skilled human resources. The main reasons why IT specialists don't meet the requirements of the modern economy are:

- poor university funding;
- knowledge in the field of information technology is changing rapidly, but the system of study at universities does not keep up with the pace of updating;
- the content of modern training programs doesn't not meet the current requirements of employers;
- the problem of "brain drain" complicates the situation.

However, not everything is as bad as it seems. The IT sphere is the most promising area that exists in Ukraine.

Does not slow down the process of automation? Everything is automated, ranging from industrial processes, ending up with retail trade. A special place is devoted to automation of transport. Many prototypes of unmanned cars have been tested.

Among the current trends, there will be the demand for AR/VR products (augmented and virtual reality). Today they are mostly used in the game and entertainment industry. In the near future one can expect their wide application in educational systems. A typical example of their use is medical universities, where instead of a picture (photo) of an organ it will be possible to see a detailed, volumetric image in real size. Such technology will open up new opportunities for the training of future surgeons and other professionals.

Another global IT trend is cybersecurity. At the same time, one of the directions promises to be particularly in demand — it's information security of communications. Therefore, in some regions, secure messengers such as Signal and Telegram overtake the market leaders Facebook Messenger and WhatsApp.

By the overwhelming majority of predictions, "Internet of Things" (IoT) will continue to grow, and in the coming years the number of devices in this segment will reach the mark of several billions. Obviously, smart devices will become larger, and their functionality will expand. Most analysts and forecasters devote special attention to the development of medical smart gadgets and related ecosystems. At the same time, the main stimulus for development is the emergence of new standards for smart medical gadgets.

One more important prospect will be voice assistants who are just beginning to gain global popularity. The obvious leaders of the market today are: Amazon Alexa, Google Assistant, Cortana, Bixby, Alice, Apple Siri. In the long run, they will become more "smart" and functional. Ordinary people are known to be able to pronounce 150 words per minute, and print only 40. Therefore, it is generally assumed that the voice input of data is the future.

There are negative prospects for IT development. It can cause harm to others. Anyway, everything that is in IT is just a tool that can be beneficial or harmful.

In the coming years, experts predict that false information will surpass the amount of real information in developed economies. Companies will have to look more closely than ever before, to track information about themselves in social media and quickly detect fake ones.

The dissemination of false information will improve the tools for its creation. Artificial intelligence will allow to produce such high quality fake that even another AI-algorithm will not be able to recognize it. As a result, a "counterfeit reality" will be formed. It will generate images, videos, documents and even sounds. Even now modern generative neural networks allow you to create plausible simulations. For example, to make videos with the president-generated speech.

In conclusion, we would say that the IT industry is one of the most promising, dynamic and innovative branches of the modern economy of Ukraine. The main problems are: low level of financing of universities, obsolete educational programs and low qualifications of teachers. This sphere has the greatest prospects, among them: automation of processes, complemented and virtual reality, cybersecurity, "Internet things", voice assistants. There are also negative prospects for development, such as: spreading fake and increasing mistakenly consumed information.