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DIGITAL MACRO TRENDS AND TECHNOLOGIES OF THE XXI CENTURY

Edited by

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The problems of emotional intelligence are in the field of both domestic and foreign scientific research. It is difficult to overestimate the importance of emotional intelligence in various spheres of human activity. The Harvard Business

Review magazine defined emotional intelligence as «an innovative idea that destroys stereotypes», calling it one of the most influential business ideas of the decade» [1, p. 11]. The concept of emotional intelligence is characterized by an individual's ability to recognize and interpret emotions, as well as productively use them for optimal problem solving [2, p. 28].

The study of the phenomenon of emotional intelligence is not a temporary trend or fad, and, contrary to popular belief, it is not such a new phenomenon. Such a misconception is caused by the oblivion into which emotional intelligence slipped due to the exaggeration of the significance of rationalism and scientific data in the 20th century. Only now, social sciences, trying to make up for lost time, have actively dealt with the mentioned aspects of the individual and their behaviour, which were previously considered to be beyond identification, evaluation or full understanding. Currently, these aspects are assigned a decisive role in effective functioning in both professional and personal spheres. Constructive relationships and strategies to overcome difficulties are the key to success in any field of human activity [3].

Reflections on emotional intelligence began quite a long time ago: in ancient times, the ancient Greek philosopher Plato paid attention to the importance of emotions in the learning process [4].

At the beginning of the 20th century, the American psychologist and educator Edward Thorndike introduced the concept of so-called social intelligence and defined it as «the ability to understand and manage men and women, boys and girls, and to act wisely in human relations». The systematization of the knowledge of Thorndike and his predecessors began in the 1960s.

One of several breakthroughs in the study of emotional intelligence occurred in 1980, when Dr. Reuven Bar-On, an Israeli psychologist of American origin, started to work in this direction. He was interested in a number of questions, in particular: why are some people emotionally more successful than others are? Why does someone manage to achieve considerable success in life, and others do not? But – most importantly – why are some people who are endowed with remarkable intellectual abilities quite often unlucky in life, while others, less gifted, are accompanied by success? By 1985, the scientist concluded that he had found a partial answer in what he called the personality's «Emotional Quotient» (EQ), which became an obvious parallel with the established system of evaluating cognitive or rational abilities known to us as IQ or «Intellectual Development Quotient».

Following this, Bar-On developed a tool later known as EQ-i, which stands for Emotional Quotient Inventory, that is, «a list of questions to determine the emotional quotient». According to the scientist, emotional intelligence consists of a series of clearly differentiated skills and relationships that intersect with each other

and that can be grouped into five general thematic fields or spheres, which, in their turn, are divided into fifteen components that can be presented in the form of scales. This tool later became known as the «Bar-On model of emotional intelligence» and served as a basis for EQ-i development [1, p. 13].

Over the next five years, Bar-On and other researchers in this field from around the world tested nearly 42,000 people from 36 countries with the help of EQ-i, creating an extensive database and proving an undeniable connection between the level of emotional intelligence and success in both personal and professional spheres.

Consequently, the scientific achievements of Reuven Bar-On gave impetus to many studies that used the test he had developed.

In 1983, the American scientist Howard Gardner published his book «Frames of mind», which shook the public perception of IQ. The author argues that success in life is not determined by one monolithic type of intelligence, but rather by a wide range of intelligences based on seven key abilities. Two types of standard academic abilities (verbal and logical-mathematical intelligence) are at the top of the list. Next, the ability to think spatially (which is well developed, for example, in outstanding artists or architects) is considered; kinesthetic abilities (manifested in fluidity of movements and grace). The list finishes with two abilities that underlie what Gardner calls «personal intelligence»: the talent for interpersonal communication (which is well-expressed in famous psychotherapists or public leaders) and the «intrapsychic» ability (which can be observed in the brilliant ideas of Sigmund Freud. It is also possible to see its manifestations in everyday life, for example, inner satisfaction from the fact that life passes in perfect harmony with feelings [1, c. 83].

The word multiple in this interpretation of intelligence is key: Gardner's model goes far beyond the standard concept of the coefficient of mental development as a single and unchanging factor in a person's life. This model proves that the tests given in school are based on a limited view of intelligence and have nothing to do with a set of real abilities and skills that are much more important in life than IQ level.

Interpersonal intelligence is the ability to understand other people, what motivates them, how they work and cooperate with others. Successful entrepreneurs, politicians, teachers, doctors, and religious leaders tend to have high levels of interpersonal intelligence. Intrapersonal intelligence is the same ability, only directed at the inner world of a person; the ability to create an accurate and true model of oneself and use it to achieve success in life.

Thus, the foundation of interpersonal intelligence is the ability to recognize and respond appropriately to other people's moods, temperaments, motivations, and desires. Intrapersonal intelligence, which can be called the key to self-

knowledge, includes «access» to one's own feelings, the ability to distinguish them, as well as confidence in one's feelings, which helps guide behaviour.

At the same time, the division of intelligence into seven types is conditional, because there is no specific number to indicate the entire diversity of human talents. Therefore, Gardner and his colleagues expanded this list from seven to twenty types of intelligence. For example, intelligence, which was responsible for the domain of interpersonal communication, consisted of four different abilities – leadership, the ability to build relationships and maintain friendships, the ability to resolve conflicts and do an accurate social analysis of a group of people.

This multifaceted understanding of intelligence allows for a more complete picture of a child's gifts and potential (which a standard IQ score cannot do) that can make him or her successful.

Although research in the field of emotional intelligence was developing at an increasingly rapid pace, the developers of this idea faced some opposition from scientists who were supporters of the traditional understanding of intelligence, especially from those who considered IQ the only acceptable indicator of human endowments and capabilities. However, the idea of emotional intelligence still took root. According to the observation of the philosopher Thomas Kuhn, any important theoretical model must be constantly revised and refined as the tests, which the theory undergoes, become more and more severe. For the theory of emotional intelligence, this process continues [1, p.13].

In general, emotional intelligence has a number of definitions. In particular, Reuven Bar-On called it «an array of non-cognitive (emotional and social) abilities, competencies, and skills that influence an individual's ability to successfully meet the requirements of the environment and resist its pressure» [5].

For the first time, the concept of emotional intelligence was formulated in 1990 by Peter Salovey and John Mayer, who interpreted it as «the ability to create emotions, access, generate them when they facilitate thought, understand emotions and what they mean, and, accordingly, regulate them to promote emotional and intellectual growth" [6].

In other words, it is a set of skills that allow you to make your way in a complex world – personal, social, behavioural aspects of mental abilities in general, common sense and a sufficient level of perception, which are necessary from the point of view of behavioural economics. This includes the ability to correctly interpret the political and social situation and influence it, intuitively perceive what other people want and need, the ability to know their strengths and weaknesses, not succumb to stress and be attractive, that is, to be a person with whom people strive to communicate.

Today, three main models of emotional intelligence are known, but there are dozens of variations. Each of the models represents different points of view. The

first model, which belongs to Salovey and Mayer, is based on the traditional idea of intelligence, which was formed a century ago relying on the first research into IQ. The model proposed by Reuven Bar-On is based on his research on well-being. Daniel Goleman's model is focused on productivity at work and the development of managerial skills, combining the theory of emotional intelligence with research devoted to the modelling of employee competencies [1, c. 14].

After providing a broad definition of emotional intelligence, Salovey and Mayer divided the abilities underlying it into five categories [1, p. 93]:

1. Awareness of one's own emotions (self-awareness). This component can be called the foundation of emotional intelligence. It involves the ability of a person to be aware of their emotions, be able to analyse them and interpret them correctly, which is extremely important for psychological insight and self-knowledge. The inability to identify one's true feelings robs a person of control. People who can say with certainty what exactly they feel are better pilots of their lives; they rarely doubt the correctness of any of their decisions, which, in turn, helps to make decisions in the conditions of behavioural economics.

2. Management of emotions, which involves the ability to maintain an emotional balance, especially in critical situations. The ability to manage feelings and ensure that they correspond to the situation is based on self-awareness. Managing emotions does not mean suppressing them. It is important to feel and be aware of your emotional state and act accordingly. The ability to calm yourself, get rid of excessive anxiety, depression or irritability is the basis of the art of managing emotions and such skills are crucial from the point of view of behavioural economics.

3. Self-motivation, as the ability to direct emotions wisely, which in the future helps to achieve set goals and this promotes concentration of attention, increases self-motivation and self-control, helps to become more creative. The ability to control emotions – postpone pleasure, suppress impulsive actions – is the basis of any achievements. Moreover, the ability to enter the state of a «flow of inspiration» allows you to cope with any tasks, which is especially relevant in the conditions of behavioural economics.

4. The ability to recognize other people's emotions is social awareness, that is, to be able to understand others and help them taking into account their emotional state. Empathy is another ability based on emotional self-awareness; it is the most important in the list of «people skills». Members of society who have well-developed empathy are sensitive to even the smallest social cues that indicate what others want or need. This helps them to succeed in professions related to caring for others – teaching, commerce or management.

5.The ability to build relationships, or relationship management, as the ability to establish contacts and interact with those around us, taking into account

the emotional state of not only an individual person, but of the entire team. As a rule, the art of maintaining relationships is skilful handling of other people's emotions. The analysis of this component makes it possible to answer questions about social competence or incompetence, as well as identify specific skills in relation to them. These are the very skills that strengthen popularity and leadership qualities and increase the effectiveness of interpersonal communication.

Later, this model of emotional intelligence was simplified and reduced to four components: self-awareness, self-control, social sensitivity and relationship management and 19 skills instead of the initial 25 (Table 1) [7, p. 52].

The coefficient of mental development and emotional intelligence cannot be called opposite concepts – they should be considered separately. Each member of society and subjects of behavioural economics in particular, possesses intellectual abilities and acutely experiences certain emotions. People with high IQ but low emotional intelligence (or low IQ and high emotional intelligence), despite all stereotypes, are quite difficult to find. There is a certain relationship between the coefficient of mental development and some aspects of emotional intelligence, but it is so insignificant that these two concepts can be considered independent.IQ tests have become commonplace, but there is not yet, and perhaps will never be, a written test that determines an «emotional intelligence score».

In other words, there are no clear metrics for evaluating EQ (by analogy with IQ) yet. However, there is a certain set of personality characteristics, which helps to determine the approximate level of this indicator [4].

At present, there are quite a lot of tests and characteristics for identifying one or another level of emotional intelligence. Traits of people with a low level of emotional intelligence include insecurity in all manifestations, excessive self-criticism and the inability to communicate with others.

People with a high level of emotional intelligence often have such traits as self-discipline, responsibility, and the ability to adapt to the environment.

Emotional intelligence is characterized by the ability to motivate oneself and, despite difficulties, persistently work towards the goal, the ability to suppress impulsive actions and postpone pleasure, control one's mood and not allow suffering to block rational thinking, the ability to empathize and hope [1, p. 77]. A high level of emotional intelligence can be useful for people with great career ambitions, in particular, to control their emotions [4].

According to the famous American psychologist Shawn Achor, only 10% of the duration of happiness depends on the environment, the rest of it depends on our perception. Furthermore, only 25% of success in career growth is related to the level of intelligence, 75% of success depends on the presence of optimism, support from others, and the ability to perceive stress as a challenge rather than a threat [9, 10].

He refers to some data from his own research that proves: happy people have higher career performance, for instance, a happy person works 31% more efficiently than a person in a bad, calm or anxious mood; happy people have 37% higher sales than unhappy people; happy doctors work 19% faster than anxious doctors, and their diagnoses are more accurate.

It is believed that emotional intelligence is a complement to cognitive intelligence. However, the latter is difficult to develop, and sometimes not possible at all, while emotional intelligence has the ability to be developed at any age. Not everyone agrees with this and there are reasons for such disbelief [8].

In order to successfully manage people and oneself, every manager must be aware of their own existing and potential emotional triggers. A trigger is an event, a push, or rather a catalyst that activates certain emotions and directs the formation of appropriate reactions. In Dutch, the word “trigger” means to pull. The reaction can be resentment, fear, loss of self-control, pain, shock, grief, etc. When you have information about them, it will allow you to better respond to certain stimuli that cause undesirable emotions for the situation.

It should be remembered that triggers are a derivative factor, not the main one. Each person has their own triggers to which they react. Therefore, one should be familiar with them and learn how to respond to them correctly.

The key emotional triggers that managers should keep in mind while managing themselves and their team are:

1) Physical triggers, which affect a person's physical condition and are caused by cold or heat, noise.

2) Triggers of interaction, which occur during contact with other people: criticism, jokes or mockery, a raised tone of voice, etc.

3) Action triggers (behavioural triggers) – a performance on stage, the presentation of a report, a conversation with a stranger, etc.;

4) Physiological triggers – the presence of discomfort in the body caused by our physiological state: the presence of pain (e.g. toothache), hunger, thirst, the preinfarction condition, high body temperature;

5) Mental triggers, which are formed under the influence of a system of views, beliefs and ways of thinking.

6) Thought triggers often occur under the influence of information or events in the environment. This is a reflection on diseases, plagues, war, etc.

There are universal triggers to which most people react in the same way, and there are individual triggers. Universal ones include unpleasant news, disasters, war, the loss of a loved one, contempt or control from others, etc. As noted in [emotional triggers], a person who has knowledge of universal or individual triggers begins to instinctively seek them out around him or her. Thus, it can lead to real triggers and imagined ones that are not actually there. However, our

reaction to the latter may be different. Sometimes, they can provoke paranoia, an irrational fear, etc., and sometimes, like when we are watching a film, we worry about the characters, but distance ourselves from these emotions in real life.

Steps to manage your own triggers:

1. Getting to know “the point of no return”. Every person has such a point, after reaching which it becomes no longer possible to return to a stable state. It is very good to know such points in ourselves, the time when we will no longer pay due attention to common sense, but will completely give in to emotions.
2. Calm down. In a calm state, it is easier for a person to analyse the situation and decide on their thoughts and behaviour. At this time, they can observe themselves and their surroundings. Observation is the opposite of impulsive reaction, which often has negative consequences.
3. Outline the emotion without evaluating it.

John Mayer and Peter Salovey proposed the following questions in the development of emotional intelligence:

1. How do we evaluate and express emotions? Do we correctly perceive other people's emotions? Or do we «read» them wrongly? Are our facial expressions, words and behaviour good at expressing our own emotions?
2. What do we know about the environment in which emotions arise (taking into account the social or cultural context)? What words and actions can cause negative emotions in Ukrainians? Will the same words cause similar emotions in the peoples of Germany, etc.?
3. How do we manage emotions? Are we well aware of our triggers? How long can we suppress our unwanted emotions? Do we know the triggers of our colleagues at work? Can we influence the emotions of others?
4. How do we make decisions on the basis of expressed emotions? What behaviour follows the emotions?

In addition, in [8] there are such recommendations for improving skills in the development of emotional intelligence:

1. Purposefully observe both your own emotions and those of others. It would be a good idea to keep a diary of your emotions, noting them down along with the events that caused them.
2. Ask a trusted friend for feedback and help in recognizing other people's emotions and evaluating your own.
3. Put questions to the interlocutor in order to clarify their emotions
4. Get rid of the taboo on emotions, not to divide them into right or wrong ones.

In the system of the digital economy functioning, the level of group IQ is vital.

At the end of the 20th century, a third of the American workforce consisted of «knowledge workers» - people whose activities were related to processing information (market analysts, writers or programmers). Peter Drucker, a famous businessman who proposed the term «knowledge worker», noted that the experience of such workers is limited to their area of specialization, and productivity depends on how well their efforts are coordinated with the work of other members of the organization's team: writers are not related to publishers, and programmers are not in the business of distributing software. Humans have always worked together, but, according to Drucker, during mental work, «the team, not the individual becomes the working unit». That is why emotional intelligence is a skill that is necessary in teamwork. In the process of uniting team members, in the literal sense of the word, a group IQ appears – a collection of talents and skills of team members. As it turned out, the most important element of group intelligence is the average IQ coefficient not in the academic sense, but rather in terms of emotional intelligence. A key element of a high group IQ is social understanding. This ability to harmonize relationships allows a group to become more talented, productive and successful. In other groups, where members are equally skilled and experienced in a certain field of activity, but do not possess emotional intelligence, things do not go so well [1, p. 282].

The idea of the existence of group intelligence belongs to Robert Sternberg, a psychologist from Yale University, and his postgraduate Wendy Williams. After conducting experiments with certain groups of employees, the scientists concluded that the best employees have a higher level of emotional intelligence in most cases. In addition, in teams, where the level of obstacles of emotional and social origin is quite high, people cannot realize their potential, while harmonious relationships help the team to get maximum benefit from the creative abilities of its most talented members.

Constant changes in the external environment due to comprehensive informatization and digitalization force leading enterprises to pay close attention to the personnel that can ensure the company's strategic success. For example, Kernel Holding S.A., which is the world leader and the largest Ukrainian producer and supplier of agricultural products to world markets, states that «the development of people's potential» is a key value of the company [11, p. 311].

Therefore, the level of emotional intelligence affects the development of the creative potential of subjects of behavioural economics.

A.H. Maslow is convinced that creativity is a creative orientation genetically inherent in everyone, but most of it is lost under the influence of the environment. According to A. H. Maslow, creativity includes an open reflection of one's feelings, self-actualization of the individual [12].

In turn, the creative potential is inextricably linked to critical thinking, and, accordingly, the development of the creative potential of the organization's personnel requires an increase in the level of critical thinking [13].

The readiness of a business entity to make decisions in conditions of uncertainty is an important feature of management decision-making taking into account a behavioural approach. The readiness involves risk-taking, which, on the one hand, actualizes the specific activity of the entity in the process of choosing alternatives, self-regulation in the implementation of risky management decisions. On the other hand, these are separate mechanisms of the influence of dispositional prerequisites, in particular, forecasting one's own capabilities, the presence of the economic potential, taking into account the specifics of the business entity's activity, and the intellectual, personal and creative potential of the entity, which makes a management decision [14 , p. 224].

Thus, it is reasonable to believe that the successful functioning of corporations in the conditions of the behavioural economy will be related to the basic skills of emotional intelligence, which, in turn, will become essential in teamwork and cooperation, helping people learn to work more effectively. As intellectual services and intellectual capital begin to attract more and more attention from corporations, improving the methods of collective work will become the main means of influencing this capital. In the increasingly competitive global economy, corporations will do everything possible to increase collective emotional intelligence.

Emotional leadership has a major role in the system of behavioural economics. The work of a leader in any case has an emotional foundation. Undoubtedly, the original leaders – shamans or tribal chiefs – won their status not least because their behaviour was emotionally appealing. Throughout human history, in a wide variety of cultures, a leader has been someone to whom others turned for support or clarification when they faced a threat or uncertainty, or when there was serious work to be done. A leader acted as an emotional mentor of their team.

In a modern organization, the problem of emotional leadership (although it is no longer so obvious) remains one of the most important. A leader must channel collective emotions into the right direction, create a friendly atmosphere and skilfully fight against negative attitudes.

At the same time, it should be added that this task is equally important for leaders at any level – from the boardroom to the trading floor. In other words, a leader has the maximum opportunity to influence the emotions of each team member. When leaders awaken positive emotions in people, they bring out the best in them. This is called the resonance effect. Conversely, when leaders provoke a negative reaction, in this case, they initiate dissonance, undermining the emotional

foundations on which collective goodwill is based. Hence, the development of a company largely depends on how effectively leaders perform their emotional task, that is, the level of emotional leadership of an organization becomes crucial [7, p. 21].

It is worth mentioning that each of the components of emotional intelligence (self-awareness; managing emotions; self-motivation; the ability to recognize the emotions of other people; the ability to build relationships) covers an important set of skills necessary for resonant leadership. At the same time, these components are closely intertwined and there are dynamic relationships between them. For example, a leader is not able to manage their own emotions well enough if he or she is almost or completely unaware of them. Moreover, if their emotion gets out of control, it can affect their ability to manage relationships with other people.

This dynamic is based on the following mechanism: self-awareness promotes both empathy and self-control, and the combination of the last two qualities makes it possible to manage relationships effectively. Consequently, emotionally intelligent leadership is based on self-awareness.

The ability to recognize the emotions of other people (social awareness), especially the ability to empathize, helps to carry out another task of a leader: to evoke a lively response. If leaders understand their own worldview and values and are able to appropriately perceive the emotions of a group, their skills in relationship management can only amplify resonance. However, to manage the emotional state of a group, leaders must first be clear about their own course and priorities, which again brings us back to the importance of self-awareness.

A good mood of leaders or their ability to say the right words at the right time will not provoke an emotional response; it appears due to a set of coordinated actions that leaders use. These actions form certain leadership styles. Typically, effective leaders use one or more leadership styles and skilfully switch from one to another depending on the situation. Table 1 shows the feasibility of using leadership styles and their impact on the emotional climate in an organization [7, p. 69].

Four out of the six known leadership styles – visionary, coaching, affiliative and democratic – are able to motivate and inspire people, which leads to increased productivity, while the other two styles – pacesetting and coercive – should be used with some caution; however, they are sometimes necessary. This allows us to say that the first four styles are resonant, and the other two are dissonant.

According to research, none of the leaders, even the most outstanding one, possessed the entire set of skills equally. Usually, the most effective leaders demonstrate strong development of about a third of the skills listed above. Moreover, there is no formula for effective leadership: there are many paths to excellence, and the best leaders may have different individual styles. Nevertheless,

most researchers are convinced that effective leaders demonstrate excellent mastery of at least one skill from the four components of emotional intelligence [7, p. 52].

Table 1

The impact of leadership styles on the emotional climate in an organization and the feasibility of their use

№	Leadership styles	How resonance is built	Impact on the emotional climate in an organization	Feasibility of use
1.	Visionary	a leader inspires people by painting them an attractive picture of the future	The most positive	when a change in the situation requires the creation of a new image of the future or if it is necessary to determine a clear direction of movement
2.	Coaching	a leader connects the desires of the people with the goals of the organization	Quite positive	in order to help an employee to improve productivity by developing promising abilities
3.	Affiliative	a leader creates harmony by bringing people together is	Positive	in order to get rid of discord in the team, motivate employees in difficult times or strengthen interpersonal relationships
4.	Democratic	a leader evaluates employees' contribution to the work and with the help of their active involvement in the management process achieves commitment	Positive	with the aim of getting support and unanimity, motivating employees to make proposals regarding the development of the business
5.	Pacesetting	a leader strives to	is usually	when one needs to get

		achieve difficult goals and perform the most interesting tasks	extremely negative, especially when implemented unsuccessfully	the best results from a team of skilled and highly motivated employees
6.	Coercive	a leader dispels fears, indicating a clear direction of movement in unpredictable situations	is extremely negative, especially when it is misused	in a crisis situation, when there is a need to completely reorganize the business or when managing problem employees

The research on the development of emotional intelligence is becoming relevant all over the world, and it acquires special approaches in Ukraine. Management systems are changing not only at the level of enterprises and organizations; approaches to the assessment of the state management system are transforming too [2, p. 28].

When studying emotional intelligence, one should pay close attention to a manager's intelligence as the ability to recognize and interpret emotions, use them to solve management tasks. An increase in the level of emotional intelligence of the head of an enterprise improves the efficiency of each individual employee and the enterprise as a whole. The generally accepted idea of the economy is determined by a complex of social scientific disciplines dealing with the economy, namely the organization and management of material production, efficient use of resources, distribution, exchange, sale and consumption of goods and services. However, during a detailed examination of the economy, a number of factors that influence statistical, econometric, and mathematical data should be added. Such factors, the study of which is focused on the aspects of psychology, history, and politics are of particular interest.

Economic consciousness should be implemented by the national economic idea, which depends on the choice of the model of the country’s socio-economic development. The economic consciousness of society is built on the presence of economic awareness of the population, its emotional intelligence.

Emotional intelligence (EQ) has several levels. The first is being aware of one's emotions, the second is the ability to manage one's own emotions, the third is being aware of other people's emotions, and the fourth is managing the emotions of others. In business, the ability to manage the company's emotional resources, i.e.

“emotion management”, is special. In today's world with active technological development, emotional control is a necessary component of a stable society.

Generally, the population’s emotional intelligence is determined by its socio-economic status; a low level of the emotional state of society affects every citizen, organization, business, and the country in general. Behavioural economics develops a rather complex problem regarding how certain beliefs, empirical rules, interpersonal relations and social norms can lead to real economic decisions, deviating from the standards of rational utility maximization [1, p. 30].

Digital markets, a virtual economy, artificial intelligence require an appropriate response to the introduction of emotional intelligence as the ability of an individual to manage the emotional sphere based on intellectual analysis [15].

The problem of emotional intelligence requires further research both theoretically and experimentally. The educational system with the introduction of innovation and creative approaches is designed to find a balance between thinking and emotions.

Emotional intelligence is one of the key competencies of a modern manager. According to the information presented at the World Forum in Davos in 2015, it was in 3rd position out of 10 among the skills that a modern manager should possess [16]. According to D. Goleman, this feature of a manager allows them not only to go up the career ladder, but also to ensure the stability of their managerial position. As noted in [1], 80% of success for senior management is provided by emotional intelligence, while technical skills, knowledge and cognitive abilities are only 20%.

Consequently, emotional intelligence plays a prominent role in the system of the digital economy, determining the level of efficiency of its functioning through the influence on other elements.

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2. DIGITAL EDUCATIONAL RESOURCES AS AN INTERACTIVE LEARNING TOOL IN HIGHER EDUCATION INSTITUTIONS

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With the beginning of the pandemics of acute respiratorydisease COVID-19 caused by coronavirus SARS-CoV-2 online learning has become an inseparable part of modern education. Theoretical component of learning found its implementation in created electronic courses, online meetings services and various systems of online education. Though teaching of natural science disciplines, especially chemistry, has faced an inability of performing practical part of education – carry out an experiment.

Currently three main directions of putting into practice laboratory worksduring online learning can be identified:

1) carry out an experiment in household conditions
2) using video material of chemical experiment
3) usage of virtual chemical laboratory

It is well known that practical skills can be formed only directly in work with reagents and furniture. Sometimes adopted methods for holding explorations in household environment are inefficient due to the limitation of resources and conditions. Moreover, carrying out an experiment by junior students on their own, who are yet have insufficient skills of working in laboratory without supervisor is unacceptable.

Using video material of chemical experiments during learning process, especially in combination with real ones becomes more and more relevant. Relevance of showing videosis driven by spending less time on such kind of experiment than on real one, repeating multiple times particular steps, practicing skills and performing self-checking even at home.

Main purpose of illustrating video fragments – informational.Videos give only necessary facts, on basis of which students do their own consequences. Video demonstrations give an opportunity to observe experiment close-up andcontributes to awareness ofpoint of chemical processes. It allows to observe explored objects from different angles, interaction of substances, learn techniques of typical manipulations with laboratory utensils, get knowledge of safety regulations and acquire a particular level of leading chemical experiment. Video demonstration consists of fragments and doesn't connected with specific method of teaching the topic, which gives professors an opportunity to use such educative tool also with monitoring purpose.

It is relatively easy to manage students' attention during video demonstrations. Especially, when visual material is accompanied by oral comments of professor with profound explanation of what is happening on the screen. Obviously, video demonstrations are not mean to replace the real experiment. It is important for students to work individually. Though, in those cases when real experiment is not available, video demonstrations are useful tool of visualization and supplement to system of educational experiment. Usage of

video material in learning process acquires previous profound preparation of professor to create an appropriate content [3].

Performing experiment, recording, processing it and sharing finished product on appropriate platforms in open sources acquire not only professional chemical skills, but also particular technical ones. It is somewhat limits usage of video experiment in educational process in high school. A large number of digital educational resources are available to the modern chemistry professor.

The integration of a real chemical experiment and modern technologies that model and simulate chemical phenomena and processes activates a person's desire for research activity, and the appropriate methodical support makes it possible to fill the new material with interesting visual confirmations.

The video-computer chemical experiment increases the efficiency of the educational process, complements theoretical material with illustrative explorations.

The advantages of using such video content are:

- the study of ultra-fast chemical phenomena and processes, with the possibility of stopping the experiment at any stage and examining it thoroughly, explaining the details;
- mastering the principle of work of chemical installations and devices;
- formation of the ability to perceive and analyze what is seen;
- formation of research competence, that is abilities to study chemical phenomena and environmental objects based on the application of methods and forms of a real chemical experiment.

Recently, multimedia products that can be used to support the process of interactive learning are attracting more and more attention. An example of such educational systems can be virtual laboratories, which simulate the behavior of real-world objects in the computer educational space and help master new competencies.

Virtual experiments can be used to familiarize yourself with the planning and technique of performing an experiment, laboratory dishes and equipment before working in the laboratory. This enables high-quality preparation for conducting similar experiments in a real laboratory. In addition, simulated chemical experiments are safe even for untrained users. Also, it is possible to carry out such experiments, the implementation of which in real conditions is either dangerous or expensive.

One of such laboratories is Labster [1]. This is an international educational resource developed by scientists from all over the world. This online laboratory does not simulate a fictional world, but a real laboratory, with real equipment and reagents **(Fig. 1).**

In Labster, experiments are conducted in the same way as in real laboratories. For example, if you mix substances incorrectly, the test tube in your hands will explode.

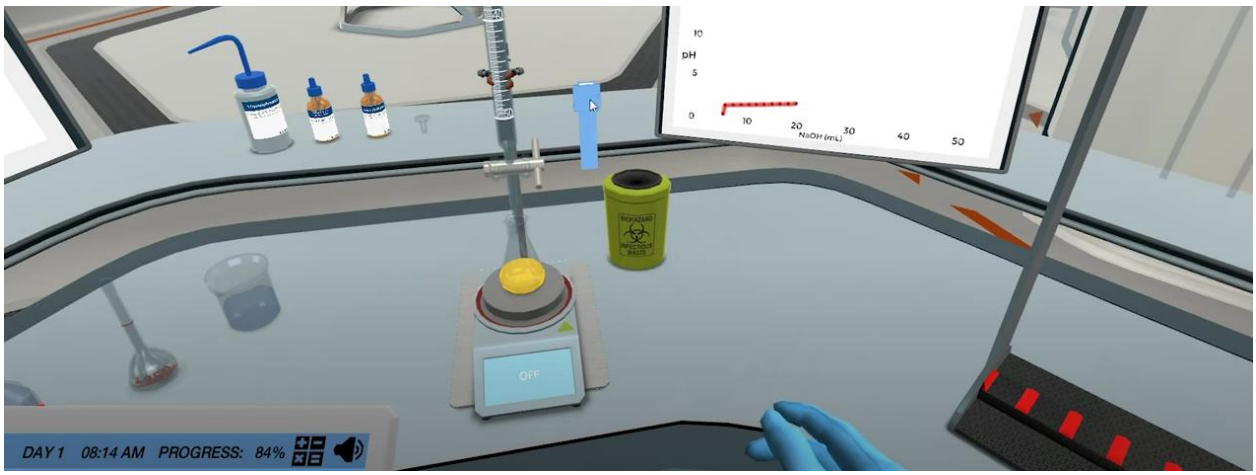

Fig. 1.Labster Chemistry Virtual Labs dialog box

The virtual laboratory simulator allows students to:

• perform any laboratory experiments online;

• study even those complex experiments and theories that cannot be carried out in the laboratory, as well as work with expensive and rare reagents;

• conduct experiments in the field of chemistry, biochemistry, biology, biotechnology, physics, genetics;

• experiment in a safe environment - since it is a virtual laboratory, it is possible to conduct experiments in it that would actually be too dangerous in the conditions of an educational laboratory;

• see physical and chemical processes visually, not through the screens of devices;

• observe those processes that in real conditions last for hours, days and years.

Labster modelling visualize science at the molecular level, offering open access for all. The knowledge gained while working at Labster can be applied in using real laboratory equipment and reagents to solve practical problems.

Labster users do not work randomly, but according to pre-prepared lessons. This means that in the laboratory they do not just experiment and have fun, but really learn to work with laboratory equipment and learn about real physical and chemical laws.

The Labster laboratory has one significant limitation (the main disadvantage for a scientist) - it allows solving only specific tasks that are programmed in it.

That is, work is possible only under a certain scenario. It is not possible to simply experiment with any equipment and reagents, and even more so it is not possible to make a scientific discovery. It is assumed that in the future online laboratories will be able to fully simulate real ones, but at the moment they allow you to play only prepared scenarios. However, this is quite enough for training.

Some Labster courses are available in VR. It means that you can put on a virtual reality helmet, take manipulators in your hands and completely immerse yourself in a simulated laboratory: walk, look, take objects in your hands and interact with them as in a real laboratory **(Fig. 2).**

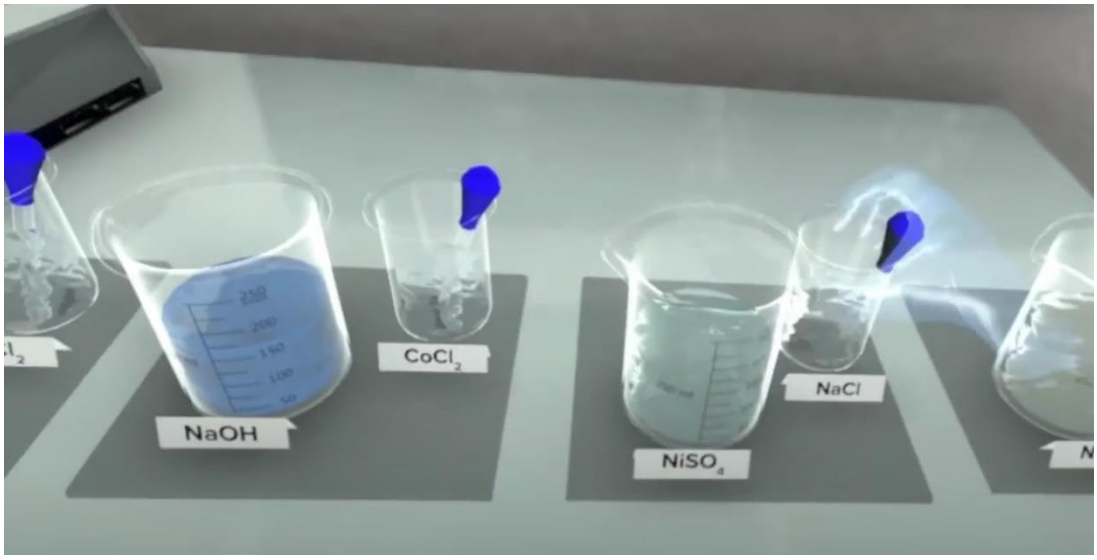

Fig. 2.Labster dialog box. VR Chemistry: Chemical Reactions

Labster continues to improve - adding more and more labs and lessons, developing VR experiments, and working to make the opportunity to conduct interesting experiments available to users in all countries of the world.

Another such virtual program is PhET [2].

This program was developed in 2002 by a Nobel laureate.

The PhET Interactive Simulations project creates free chemical, biological and scientific simulations [4-6, 8, 9]. They are based on extensive research in the field of science and education and encourage the study of such rather complex sciences through playful, intuitive activities.

PhET modeling is rather flexible tool that can be used in a variety of ways.

For example, at a basic level of math proficiency, everyone knows how to identify numbers as negative or positive, can plot whole numbers on a number line, and understands absolute value as the distance from zero.

So, in the Build an Atom simulator, you can use this knowledge and experiment with the charges of atomic nuclei **(Fig. 3)** [7].

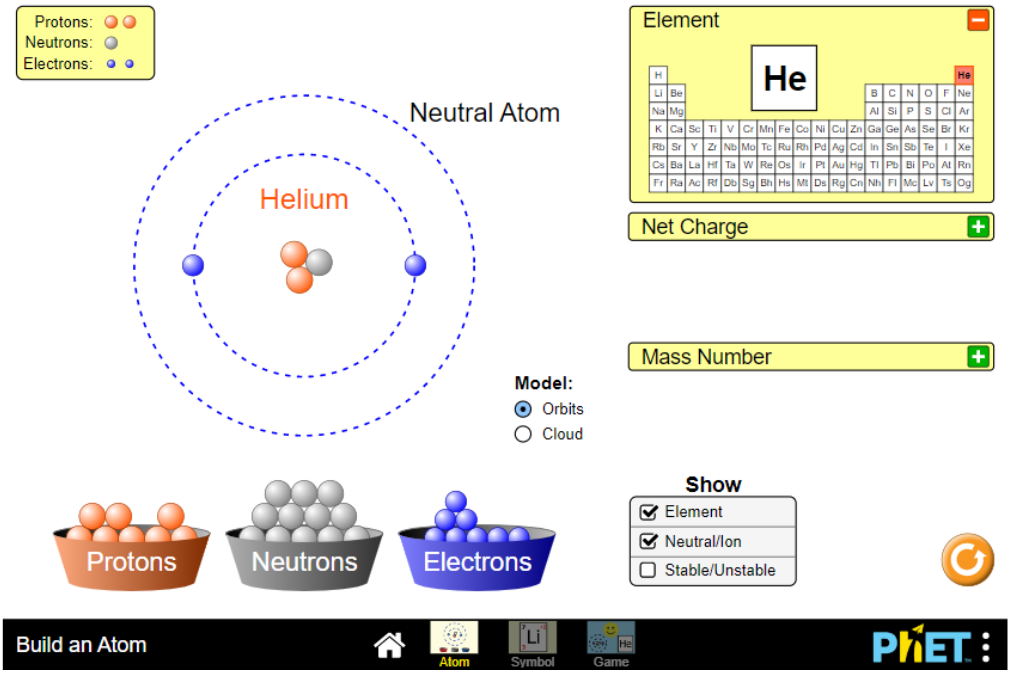

Fig. 3.PhET dialog box, Build an Atom

The use of PhET in education can be structured depending on the purpose and methodological techniques:

- **Open game:** learn by playing;
- **Share-out:** share how to use this or that game and the discoveries you made in them for yourself;
- **Discussion:** share your thoughts and hypotheses with your colleagues.

To give an example, every second person on the planet would be interested in checking the acidity of various products, but not everyone has such an opportunity and devices for this. In the PhET simulator, a number of products can be virtually tested for acidity **(Fig. 4)** [10].

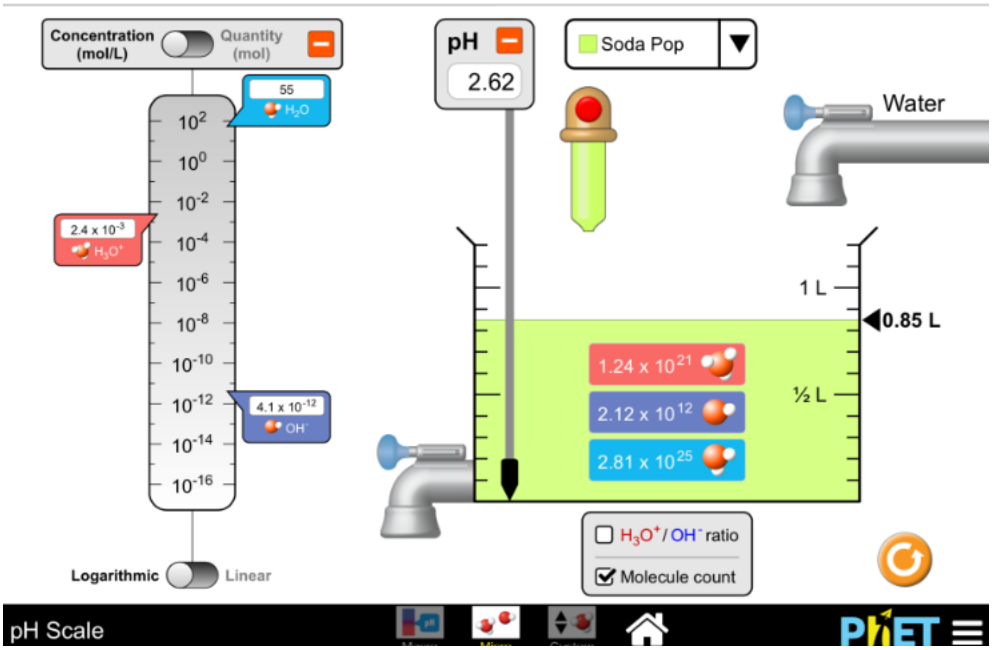

Fig. 4.PhET, pH Scale dialog box

The goals of such training can be quite different:

- Detection of whether a liquid is acidic, basic or neutral;
- Location of bases or acids in relative order;
- Description at the molecular level with illustrations of how acid-base balance changes depending on pH;
- Dependence of liquid color on pH;
- Predicting (qualitatively and quantitatively) how dilution will affect pH and concentration, etc.

Therefore, conducting an experiment in online learning is multi-component. The use of one or another form depends on many factors: specifics of the subject,preparation of the students, conditions of the laboratories, the level of mastery of the professor and students with digital educational resources, etc.

However, the use of simulators and virtual laboratories is gaining more and more development. In combination with a real experiment, they make learning interesting, intensive and effective.

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3. ARTIFICIAL INTELLIGENCE AND ROBOTICS AS THE IDEAL SOLUTION FOR SECURITY OF DIGITAL WORKPLACES

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The essence of the concept of artificial intelligence

Artificial intelligence has been stimulating our imagination for over half a century. Ever since Alan Turing presented his machine intelligence test in 1950, not a day goes by without us discussing the potential of intelligent machines. We discuss in universities, follow media sensations. At the same time, we forget that at the moment its capabilities and conditions are slightly overstated. Alone without data it means nothing. However, having a digital information package can not only support our daily tasks, but also protect us from the threats lurking on the Internet.

Artificial intelligence (English Artificial Intelligence, German: Künstliche Intelligenz) is a department of computer science that deals with intelligent modeling of behavior and software and systems for simulating this behavior [1]; [2].

The term "artificial intelligence" was introduced by John McCarthy in 1956. Andreas Kaplan and Michael Henlein define artificial intelligence as "the ability of a system to correctly interpret, use, and use this knowledge to perform specific tasks and achieve goals through flexible adaptation." [3] .

Artificial intelligence has two main meanings:

• this is a hypothetical intelligence implemented in the process of engineering, and not natural;

• this is the name of the technology and field of computer science research, which also relies on the achievements of neurology, mathematics, psychology, cognitive science and philosophy.

The main task of artificial intelligence research in the second sense is the construction of machines and computer programs capable of implementing selected functions of the mind and human feelings, which are not amenable to numerical algorithmization. Such problems are sometimes called AI-challenged and include, but are not limited to:

• decision-making in the absence of all data
• analysis and synthesis of natural languages
• logical / rational reasoning,
• automatic theorem proving
• computer logic games, such as chess, Go,
• smart robots,
• expert diagnostic systems.

The term is also used as a collective term for the fields of machine learning, fuzzy logic, computer vision, evolutionary computing, neural networks, robotics, and artificial life. There are no unambiguous data or conclusions. However, this does not mean that modern artificial intelligence is only an advanced toy without practical use. The IT industry based on machine learning is a daily reality. Soon, intelligent machines will support workers in their daily tasks. Especially in the field of cyber security.

With the development of society, the tools we use every day at work or in our private life are changing. Previously, these were, for example, a typewriter, a landline phone, and a high-speed fax machine. Then came the personal computer, the Internet, smartphones, mobile applications, and social media.

Today, artificial intelligence is another tool in our repertoire of capabilities. Both consumers and business decision-makers must "tame" artificial intelligence and abandon the sci-fi vision straight out of "Terminator". Especially in the field of data security.

However, the statistical consumer is still used to mixing concepts such as artificial intelligence, machine learning, deep learning and automation. Europeans believe that artificial intelligence is a robot, which is actually a kind of software, and not a machine that can imitate human behavior when solving problems.

Artificial intelligence is an optimization tool. Machine learning is part of this innovative concept. It is a type of computational methodology that allows a machine to continuously analyze an ever-increasing amount of data to find the desired result.

Artificial intelligence is not a new idea in the world of information technology research. However, only the development of the Internet, data generation systems

and the increase in computing capabilities of modern machines allowed these solutions to seriously appear in the business world. The automation and efficiency offered by these technologies is a chance to increase the productivity of employees and the entire company. Unfortunately, many companies still cannot find a balance between the efficiency and quality of such implementations and the overall level of corporate security. All that is needed for this is the right data, the ability to analyze it and quickly draw conclusions.[2]

Therefore, artificial intelligence is an ideal solution for digitizing the modern company and ensuring the safety of digital workplaces.

Let's consider how an employee can fall into the trap of dry numbers?

Today's organization, which must take care of its digital security, is highly dependent on IT services and solutions. However, if the enterprise does not know which devices are connected to the corporate network, which employees do so and which applications they have access to, it is almost impossible to provide an adequate level of protection. In this case, visibility and transparency are the key to building an effective defense strategy. Especially since today's cyberattacks are becoming more and more complex.

Practice shows that UEBA (User Entity Behavior Analytics) solutions, which are able to detect anomalies deviating from the profile of typical user behavior, and SOAR (Security Orchestration and Automation Response), which accelerate the process of detecting and combating potential anomalies, are becoming more and more popular . The threats that lie in wait for Internet users are much more serious than we think today. Mobile devices have become a favorite tool for cybercriminals. Therefore, the number of threats increases with each new tool connected to the company's network. However, there are tools that allow you to effectively deal with this.

The tools and methods that have been used up until now complicate a company's technology environment with each new security feature. Moreover, certain types of data are distributed among different areas of business operations - IT, HR, marketing, sales, supply chain. Each such segment receives its own security. This further complicates the company's IT ecosystem. Without the integration of all these tools, data becomes vulnerable to cyber attacks over time. Therefore, modern business must constantly think about security as a whole. The entire company, all work environments, tools, applications and data must be protected because anyone and anything can be the source of a cyber attack.

Artificial intelligence and data protection

We have all witnessed that there is no shortage of threats in the hyper-distributed web. Moreover, there are more of them every day. So the question arises: how can artificial intelligence help us protect ourselves? Especially if the company is a complex ecosystem consisting of systems, devices and people, who

are often the weakest link in corporate cybersecurity. The modern worker can work anywhere and on any device with network access. A company that allows remote work in this industry is very often under attack. A hacker can find out how, when, from which devices, which systems, which departments an employee enters and steals data at each stage. This activity is a huge volume of data about the behavior of employees, which a person will never analyze on his own, in order to identify certain patterns, norms and pathological situations.

This is where artificial intelligence comes into play. Only she has the ability to connect all the elements of this huge digital puzzle that will show what, when and how to do in the field of cyber security. The automation that SI / ML can offer is, in turn, a chance to take preventive or corrective actions on the spot, without human intervention. Organizations are beginning to realize that in order to offer unique end-user experiences with similar or reduced budgets, they must look to AI for support.

The language of practical benefits

Artificial intelligence and machine learning algorithms are already being used in practice by many companies and industries around the world. The scale of their implementation is still not large, but the prospects are significant, especially if the business decides to increase investments. According to IDC, global spending on artificial intelligence solutions will increase by 44 percent. reaching a value of almost 36 billion dollars. And further investment is worth it. For example, a retailer will be able to analyze in real time whether the credit card readers in the stores of the chain are working properly. In turn, the health care service will be able to seriously develop the telemedicine segment without fearing that any confidential patient data will be exposed to hacking. By looking at examples, we can also go beyond traditional business.

Artificial intelligence is an opportunity for much better, predictable and automated protection of IoT sensors in smart cities or databases in education.

It's time for modern businesses to start using modern tools that guarantee them a high level of security based on transparency and automation. Using artificial intelligence, an innovative company has the opportunity to build a digital place that is easy and safe to use. It's an opportunity to provide employees with a tool that allows them to focus on their work instead of worrying about corporate and personal security. This can be achieved by investing in AI-powered solutions.

However, Artificial Intelligence itself is just a gadget.It shows its true potential when teamed with professional digital workplace management solutions.

While creating a digital workplace is never the ultimate goal of digitization, it should bring tangible business benefits. Even if the term "digital workplace" is not meant to be understood by everyone, its most important prerequisites are the same

in every company. So how do you create a “digital workspace” and what role does an ECM system play in this?

A digital workplace should provide centralized access to information, integration of established means of communication, effective collaboration, secure document management and transparent processes. Therefore, its driving force can be defined as an ECM system that meets these business requirements. The digital workplace eliminates separate sources of information at enterprises and increases opportunities for cooperation with customers and suppliers. This ensures communication between all employees, facilitates knowledge sharing and improves work processes.

The starting point for creating a digital workplace is the development of a digitization strategy. The question is: What do we want to achieve with the digital workplace? Higher productivity, better collaboration, a modern workplace for employees? A digitization strategy should take into account issues such as organization and work style, corporate culture, the ability of employees to adapt to digitization, and ease of use of the software. Other foundational elements of this strategy include hardware, business applications, security and digital infrastructure.

What are the components and functionality? Can existing infrastructure be easily expanded with APM to keep pace with new technologies and market demands? Implementing an enterprise-wide digital workplace is a great opportunity to strengthen your IT infrastructure. The number of tools can almost always be reduced, and solutions from different vendors can be better coordinated. In this way, companies not only create a unified platform for collaboration, but also reduce redundant licensing and maintenance costs.

ECM, i.e. centralized storage of information

Often corporate information resources are scattered in different systems and locations, isolated from each other and difficult to find. This applies to data from business systems such as ERP, CRM, HR and PDM, as well as email messages, commercial documents and product descriptions - in other words, a huge amount of unstructured, sometimes even paper, documents. Thanks to the ECM system, these individual elements can be combined to create a single whole.

The ECM Digital Workplace solution contextually connects documents, data and processes scattered across different systems. Captures, collects, organizes, archives, receives and distributes information regardless of its location. Once a basic ECM application is installed with standard features, it can be made available to any department. It is enough to adapt it to the specifics and needs of this department.

In today's reality, customers and employees expect the ability to receive information anytime, anywhere through their mobile devices. This is not a problem

in the ECM system. With features like Enterprise Search, you can search centrally across the enterprise without having to switch between individual repositories.

ECM finds the information required in all systems and displays the search results in a clear, unified and structured list, including documents, data, electronic files, tasks or processes. The relevant source is recognized immediately, so users can go directly to it. As a result, you can actively use all information resources, positively influencing business processes.

Process automation

If you want to create a digital workplace, you need to automate repetitive processes as much as possible. Information should be shared between systems independently and work orders should be documented. However, in many cases, many tools and applications prevent continuity of processes across the enterprise. Companies must digitize to reorganize and automate processes so that they no longer have to manually search for, transfer, or send information. This leads to great optimization potential. Digital workflows, rather than paper folders, simplify processing, increase throughput and ensure process transparency. Then there is no need to ask additional questions, such as: who processed this process, when and how, what is its latest version and where is it located.

An end-to-end ECM solution allows you to standardize common business processes, such as processing insurance claims, bank loan processing and contract management. When processing incoming invoices, documents can be automatically entered, assigned to suppliers, checked and compared to purchase orders.

Cross-departmental collaboration and sharing the right data and documents with specific specialists at the right time increases productivity and provides growth potential. An additional benefit is motivated employees who no longer have to worry about long wait times or lack of information needed to provide quick customer service [5].

Application of artificial intelligence in robotics

A wide range of sensors are added to AI-controlled robots, including vision devices such as 2D/3D cameras, vibration sensors, proximity sensors, accelerometers and other environmental sensors, providing them with sensory information that can be processed and executed in real conditions. - time

Combined with artificial intelligence, robotics can help organizations innovate and transform their operations. The most popular categories of AI robots in use today include:

Autonomous Mobile Robots (AMR)

As they navigate their environment, AI enables AMR to:

• Information can be obtained using 3D cameras and LiDAR sensors.

• Analyze the data obtained and summarize its context and overall objectives.

• Adjust behavior for maximum results.

The activities and tasks performed by AI-enabled AMRs vary by industry. For example, AMRs can avoid collisions by avoiding people or falling boxes when transporting products from one location in a warehouse to another, as well as determining the best route.

Connected robot (robot arm)

Robots with movable arms can do their jobs faster and more accurately thanks to artificial intelligence. AI systems use information from vision sensors, such as 2D and 3D cameras, to segment and understand scenes and recognize and classify objects.

Collaborative robot

Thanks to artificial intelligence, cobots can understand and adapt to human language and gestures, eliminating the need for human-assisted training.

Robot	**Artificial Intelligence**
Robotics is a field of artificial intelligence that uses artificial intelligence to enhance its capabilities. Robots are autonomous or semi-autonomous machines that process information and are controlled by computer systems. Robots are used for assembly, packaging, Earth and space exploration, surgery, laboratory research, weapons, and other purposes.	Artificial intelligence is similar to computer programs that often exhibit some characteristics of human intelligence. Artificial intelligence is the link between machine learning and human intelligence. Artificial intelligence is human intelligence that supports the human mind to perform tasks better and improve itself. Spotify, Apple's Siri, Netflix, Google's DeepMind all have artificial intelligence.

The most widespread areas of application of artificial intelligence are the following:

• Technologies based on fuzzy logic - usually used, for example, to control the course of technological processes at factories in conditions of "absence of all data".

• Expert systems - systems that use a knowledge base (written declaratively) and mechanisms for solving problems.

• Machine translation of texts - translation systems are not as good as humans, they are intensively progressing and are especially suitable for the translation of technical texts.

• Neural networks - successfully used in many applications, including programming "intelligent opponents" in computer games.

• Machine learning - the branch of artificial intelligence that deals with algorithms that can learn to make decisions or gain knowledge.

• Data mining - areas discussed, relationship to information needs, knowledge acquisition, analysis methods used, expected results.

• Image recognition - programs for recognizing people based on a photo of a face or automatically recognizing selected objects on satellite photos are already in use.

• Speech recognition and speaker recognition - already widely used on a commercial scale.

• Intelligent interfaces - used for automated management, monitoring, reporting and attempts to solve potential problems in technological processes.

• Predicting and detecting fraud - using, among other things, logistic regression, systems analyze data sets to detect, for example, suspicious financial transactions [5] .

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4. DEVELOPMENT OF THE VIRTUAL INTERFACE IN THE CONDITIONS OF DIGITALIZATION

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The digital economy is virtual in nature, but it is not an irrational boom like a digital bubble, but creates real value in its own unique way. In understanding the digital economy, implementing digital transformation and promoting the development of the digital economy, due to knowledge gaps and misunderstandings about the virtuality of the digital economy, it is difficult for people to understand the value of the digital economy and how to realize it, which to some extent affects digital transformation and development. The development of digital economy. In recent years, companies in the Internet and other information industries at home and abroad are mostly included in the top 500 companies in the world and in the first ranks of various economic lists. The value they create is real. It has not only given birth to a new form of digital industry, but also contributed to the digital development of traditional industries, particularly manufacturing, and is changing people's lives to a great extent. The value created by the digital economy, in addition to the value of the three main elements of the data array, modern networks and digital intelligence technologies, more and more often the value is generated in the interaction of the main elements.

The intrinsic value of the digital economy is that its actual value increases when the expansion of economic activity and resources and energy do not increase. This is a vivid manifestation of the virtuality of the digital economy[1].

There is no system without rules, and management without processes. Digital transformation of enterprises requires the use of digital technologies to introduce all elements of business management into the process and make them organically organized.Process is not just form, it has power. The process of performing a process is the process of a scientific operation. If the process is scientific, the operation will be successful; if the process is not rigorous, the

operation will be sloppy; if there is no force in the process, the process will go through the motions.

This truly allows the process to fully reflect the nature of the enterprise's business and prevents key links and important nodes from leaving the process. The process of digital formation is to rely on the advantages of 5G technology, focus on the intelligence of key connections based on end-to-end data flow and supported by network connection, and integrate intelligent technology into design, production, management, communication between service and other communications, which effectively shortens the product development cycle, reduces resource and energy consumption, lowers operating costs, improves product quality, and increases production efficiency.

Paperless, cloud-based mode and automation of all processes and connections will allow the entire production process to be automatically implemented without direct contact between people under a digital drive. Workflow and communications transformed by digital technologies have the characteristics of precision forecasting, precision service, precision supply and marketing. This will avoid the blindness in the operation of the traditional market economy, reduce market volatility and uncertainty, and significantly reduce market transaction costs. The synergistic effect not only provides convenient decision-making and accurate services to producers and consumers, but also greatly increases the level of automation and intelligence.Digitally improving these processes and connections will lead to greater value and impact in the digital economy than in the industrial economy.

Digitalization is process reengineering and management change. Process is the basis and prerequisite of management, but supervision and decision-making in digital environments do not simply correspond to process, but also take into account the various economic and social relations enhanced by digital development.

With the formation of the digital economy and digital society, the digital supervision of enterprises has come out of the original narrow and closed sphere of management, combined with social digital management, digital public administration and digital application of the public, demonstrating macro- and micro-, internal and external in the process of economic development, the main protagonists and diverse landscapes of digital regulation and governance.

Adapting and coordinating new methods of supervision and management of the digital economy, it is necessary to research and develop digital supervision and management tools as soon as possible, improve the level of digital management of enterprises and other economic organizations, and actively respond to the digital economy. , as well as timely feedback and correction of deviations in the problems of digital development of enterprises, putting forward proposals, promoting the

healthy and smooth development of the digital economy and better service to customers, society and the public.

From the point of view of economic transformation, the industrial Internet platform promotes the transition from the digital economy, the economy of scale to the economy of volume, and the traditional single-grade, large-volume, and standardized production methods change to multi-grade, small-batch, personalized, and individualized production methods.In addition, the Industrial Internet has changed the relationship between workers, objects of labor, and tools of labor, and has realized the networked cooperation of productive resources on a larger scale and with higher efficiency, causing fundamental changes in production methods, enterprise forms, and business. models

From the perspective of corporate supervision and management, the response of the decision-making chain of corporate management, the production chain and the customer service chain will be more flexible, accurate and efficient, forming a new economic form of flexible work, accurate service and fast. Through institutional supervision and digital intelligent management, people are freed from massive, low-value, simple and repetitive work, reducing supervision costs and improving management efficiency.

From the point of view of digital control and decision-making, blockchain, big data, artificial intelligence and other technologies have certain attributes of production relations, so that digital technology extends from the function of productivity to the function of both productivity and production relations, from creating material goods to expanding the level of auxiliary supervision and management.

Digital regulation and governance is the embodiment of the reaction of the attributes of industrial relations to digital technology, which will begin to act faster than the general reaction. For example, machine decision-making does not need to be converted to human decision-making, otherwise it will be overwhelmed by humans and it will be difficult to respond quickly.If quantum computing emerges and is applied, it will lead to another wave of super-changes throughout society, and will probably lead the long river of human civilization to the end of digital intelligence.

If a concentrated and high-quality intelligent network of neurons in the brain transmits and distributes relevant information, it will accelerate the digital intelligence of the world.

Data resources become a key element not to eliminate materials and energy, but to fine-tune them according to the premise of digital engagement, and sometimes data can replace some resources, reduce repeated waste, improve quality, reduce defective products , reduce resources and energy consumption reduces weight and mechanical losses, promotes environmental protection and

recycles. "Data cannot create cars or build houses, but data can build cars and houses with low cost, high efficiency and high quality, and effectively deliver public services." “Data elements can create more material with less material resources. Wealth and services even have a substitution effect on traditional factors of production. For example, mobile payment will replace traditional ATMs and business premises.

Boston Consulting (BCG) estimates that due to the popularity of the Internet and mobile payments, China has lost at least 1 trillion in the past 10 years Building traditional offline payment infrastructure. E-commerce reduces large-scale investment in traditional commercial infrastructure, government affairs are “run at most once” reduce labor and resource consumption, and data elements create more value with less investment.” [2] Digital technology is becoming an important tool for achieving carbon neutrality, and itself in itself is a technical means with a low carbon content. A 2016 report by the Global e-Sustainability Initiative (GeSI) predicted that by 2030, the use of information technology could reduce global greenhouse gas emissions by 20%, and digitalization could reduce carbon emissions by 12.1 billion tons.

The basis and core of the digital economy is digital industrialization. Developing key areas of the digital economy, it also provides digital technologies, products, services, infrastructure and solutions for all areas of life. All spheres of life can rely on digital technologies and data elements to carry out economic activities and shape industrial digitalization[2].

The basic development of the digital economy will allow the integration of original infrastructure, such as roads and networks, into intelligent objects such as 5G, the industrial Internet, artificial intelligence and large data centers, to create the conditions for the interconnection of everything, activate the sedimented and inorganic objects, as well as build a system.A complete, efficient, practical, smart, green, safe and reliable modern infrastructure system provides a reliable guarantee of data flow and innovation-driven technology empowerment, supports the working structure of the industrial Internet, and enables manufacturing enterprises to shape the network topology. Co-exist businesses without overt intersection in an environment of mutual trust supported by technology.

With the application of information infrastructure, market players can easily access the Internet, quickly access the cloud, and enter the digital world in a timely manner, realizing program-driven, automated and intelligent manufacturing and production. , to achieve a state of rapid delivery and real-time response, and then solve the problems of real-time interconnection and communication of all links of the industrial chain and supply chain, make the process of data use transparent and controllable, promote the deepening of multi-dimensional business cooperation, and make production and supply. All aspects of sales form an organic whole.

For example, 5G, as the core technology of the new infrastructure, can expand the capabilities of industrial production and adapt to the individual characteristics of different industries and the needs of different enterprises, understand the needs of different industries, have more interfaces, high reliability, anti-electromagnetic protection. obstacles, adaptability.High and low temperature, explosion-proof and other capabilities, transform the original 3G and 4G technology applications into 5G applications, and develop and adapt to 5G industrial applications. Make 5G a truly intelligent tool and industrial assistant.

The process of industrial digitalization builds on existing mechanization and automation, empowering various industries with digital intelligence technologies, combining manufacturing technologies with digital technologies, and building a system that integrates information collection, data analysis, organizational decision-making, and project execution. unique intelligent system, increasing the intellectual level of the industry will increase its value.

However, the digital economy is incompatible with the real economy, especially with the key structure of the manufacturing industry. To prevent the "IT paradox", it is necessary to emphasize the informatization of data, the intelligence of equipment and the relationship between workers and equipment. and management.compatibility. For example, "factory intranets should facilitate IT and OT integration, develop integrated gateways, force enterprises to move to flat IP-based intelligent design, facilitate machine networking, and bring production line data to life."[1]

A digital double is a complex application of digital intelligence technology. Through perception and simulation technologies, it projects a virtual object that is the same as the physical entity, forming the same overall structure, resource composition, work process and actual effect as the physical entity. The latter is a "parallel world" of dynamic synchronization.Through the continuous interaction between virtual and real, mutual feedback and work, as virtual objects constantly perceive and analyze physical objects, expand data models, real-time digital representation, multi-dimensional precision, so that physical objects take and carry out instructions issued by virtual Digital objects influence natural persons in a closed loop to reduce the risk of experimentation and production, consumption of resources and energy, waste of time and labor that previously had natural persons.

Of course, industrial design is also a kind of virtuality before actual production, but such design is the procedure of the entire production process. Once the plan enters the production process, it is difficult to change and improve it in the process. This cannot be tested until the product is released or used. If found To solve the problem and improve it, it is necessary to start from scratch, with a long cycle and a lot of consumables. The digital double is different.The interactive

feedback between the virtual body and the physical body is a free trial and error method for simulated selection, and it is a new way to improve productivity. "By solving the problems of virtualization, simulation and personalization in product manufacturing, the product can be manufactured and modeled according to the user's needs, and the structure, material and production process of the product can be determined according to the user's experience, so that Product Manufacturing is based on the ability to quickly and accurately meet the needs of users" .Of course, the virtual is not magical, and the entity does not accept messy schemes and illusory instructions. The virtual economy has its own logic and principles, and also has mechanisms and wisdom that go beyond the boundaries of the traditional economy. What is important is that "the concessions are unrealistic, and the pragmatic ones are false.

As long as science and technology, laws and essence, logic and procedures are followed, the intelligent virtual object is firmly established and the interaction between them is maintained, the physical reality will be represented according to the logic, procedures, resources, architecture and effects. If the virtual world is too random, unscientific, irrational, and unreliable, then a physical entity built according to a virtual blueprint may be a mess and doomed to failure.

We often use novels, dramas and other literary and artistic devices to describe the real world, which not only come from reality, but also artistically exaggerate reality, which will give us a kind of enjoyment and inspiration in the spiritual world. Now we design the virtual world by perceiving and simulating the physical reality, and use massive data, intelligent network and technological tools to analyze, demonstrate, correct and improve the mapped virtual world, and then gradually transform the real world according to the ideal virtual plan.

It is important to use digital technology to activate elements of the real economy to rely on network, platform and data for resource configuration, which can expand the scope of element configuration at low cost and without energy consumption. It is necessary to get rid of the limitations of traditional elements such as geography, transportation, industry, enterprise, energy and talent, activate idle equipment, energy, talent and other resources of various enterprises in different places, aggregate various resources, optimize the structure of resources, and expand the organization of the industrial chain. The division of labor, the reduction of transaction costs, the transfer of the distribution of value and forced changes in demand are relevant.

Flexible allocation of resources awakens the innovative vitality of organizations and individuals. Accelerate the transformation of capital and labor-based elements into technology and services, strengthen independent innovation capabilities in the manufacturing industry, promote the development of modern manufacturing service industries, improve the innovation capabilities of relevant

products and business models, and rely on "smart customization" and "experimental sales" to improve the consumer scene, meet the fragmented needs of users, increase user value, and enhance user retention.

The reason why the digital economy can develop rapidly is that the application of digital technologies brings convenience to consumers and makes consumers willing to accept digitalization.It also lies in the regulatory requirements of data management authorities so that consumers have an inclusive attitude towards the sharing and use of data.

This widespread use of many digital products and services provides an enormous amount of data and application scenarios.

Any country that doesn't allow companies to collect personal driving data will have a hard time growing the industry. It will be the same with all AI programs in health care. It takes a lot of X-rays, CT scans and other diagnostic data to create life-saving innovations."

However, the development of the digital economy should accelerate the own improvement of user tolerance, and it is necessary to transform the idea of clarifying a large amount of data into practical application and consciously prevent the potential problems of digital disruption from affecting users[2].

Since at the beginning of the development of the digital economy, both developers and users are interested in research and experimentation, in the deepening of development, it is necessary to strictly regulate, respect the rights and interests of users, and strive to improve with the help of technology and supervision. It is the experience of the development of inclusiveness and tolerance that allows the digital economy to have its qualities of interconnection and sharing in its development. In addition, the unbalanced development of the digital economy will inevitably support the competitive situation. Competition accelerates development, and tolerance embodies the essence of sharing.The faster the digital economy develops, the more acutely it can perceive and fix its own risks, and the more it must take into account the solution of its own negative consequences.

Thus, the digital economy should be understood as two sides of the support: one is the additional benefits of development, and the other is the gradual elimination of risks. Impeding the achievement of the digital economy, entropy rises, the discount is high, and the gain outweighs the gain. For this, it is necessary to always pay attention to digital security risks and prevent them in the development of the digital economy, attach great importance and solve unbalanced problems such as monopoly, isolated islands and gaps in the development of digitalization, striving to achieve equal opportunities, equal rules, and equal rights in digitization, and actively solving digital problems. Only by eliminating the negative factors of economic development can the digital economy become a truly inclusive and shared economy[3].

Today, it is important to solve the problem of unbalanced development and adhere to common values.

The digital economy transcends traditional market rules, especially active and transparent transaction methods and relatively symmetrical information rights, so that market players have equal status, which is essentially a sharing economy.

However, in real development, there is a phenomenon of homogeneity in the development of the regional digital economy, and the competition for key resources between regions has exacerbated the imbalance in the development of the digital economy.Therefore, on the basis of supporting the wide penetration of the digital economy, analyzing and measuring the development status of the regional digital economy industry, and targeting the regional differences in the digital economy and the digital divide between urban and rural areas and between people groups, can strengthen the coordinated development of the digital economy and strengthen the regional digital economy.

Economic and industrial coupling will encourage backward regions to share the "digital dividend", increase the penetration of the digital economy into weak regions and industries, and increase the high-quality share of the overall digital economy; the platform model can be used to transform backward industries, reformat production methods, manufacture and sell precision products to take advantage of market opportunities; can organize various elements and resources to empower economically and socially backward areas, remote mountainous areas and vulnerable groups, and prevent the formation of a digital divide; can allow each operating entity to strengthen internal relations with the system, guided by common interests. Business cooperation allows different regions and different groups of people to achieve inclusiveness and coordinated development, and forms an economy of value creation space that can play a synergistic role between corporate value and social value."Enterprises are the first to integrate business behavior and social development and put them at the core, given that the creation of 'shared value' is to integrate the creation of economic value into the creation of social value, to link the success of enterprises with social progress and increase the total amount of commercial and social value. This is a new method of social distribution."

Michael Porter and Mark Kramer believe that the principle of shared value can realize a virtuous circle between enterprise development and social prosperity and bring enterprises permanent profits. A growing number of companies known for their smart approach to doing business have already committed to a shared value initiative as part of their corporate strategy.

The integration and development of technologies such as big data, cloud computing, the Internet of Things, and the mobile Internet have resulted in network security risks being overlapping and extremely complex, especially the natural

volatility of the digital economy, which makes traditional means of information protection no longer applicable. applicable, which has attracted the attention of many parties. Such as big data analysis, data security, privacy protection, etc., all have specifications and requirements of laws and regulations.

Therefore, the digital economy must be based on construction and development while doing a good job of risk prevention and security. While building the infrastructure of the digital economy, it is necessary to build security facilities in parallel. While designing, implementing and implementing laws and regulations to build the digital economy, it is necessary to simultaneously formulate, implement and implement laws and regulations for digital and network security[4].

Enterprises should seek a balance between digital business development and data security, and maintain national political security, business transaction security, and citizen privacy security through various means such as technology, regulations, surveillance, and enforcement. The digital economy transcends national borders and will grow and prosper on a larger scale. People must work together to reduce digital security barriers, unlock the potential of the digital economy, and gradually build an open, secure and fair digital economy. environment.Don't create security risks or sacrifice privacy rights for the benefits of the digital economy, and don't let achievements be undermined. Inclusive benefits start with prevention of negative consequences, turn risks into safety, turn harm into benefits, protect and consolidate the achievements of the digital economy, especially the achievements in the area of social benefits, and become a truly inclusive sharing economy.

The digital economy has the characteristics of rapid development, a high degree of integration and new business models. In order to understand the essence of realizing the value of the digital economy, to be well aware of the development of the digital economy, and to promote the development of the digital economy in a step-by-step and purposeful way, efforts should be focused on three aspects: first, we should use the opportunity to develop the core part of the digital economy as soon as possible and improve the capabilities of the core machine; second, we must carry out digital transformation, integrate the digital economy and the real economy, and promote the digital development of various industries as soon as possible, taking into account the role of digital attribute management, introducing new management methods, responding to the performance of digital technologies, and promoting the healthy development of the digital economy.

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5. TARGET BUSINESS: THE FUTURE OF TOURISM

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The global tourism industry is experiencing unprecedented changes. Waves of new coronavirus epidemics step by step prompt the transformation of the industry. How these changes and trends will ultimately affect the future of the industry is still unclear. Everyone witnessed that the full-scale invasion of Russia into Ukraine had a strong impact on the activities of large and small businesses. Practice has shown that the tourism industry is the most affected. Starting from February 24, 2022, the main purpose of going abroad was evacuation, then the

hotels were overcrowded with forced migrants, and the question arose: how can tourist enterprises "survive"? To avoid the current hostilities, a large number of our citizens have settled in hotels and nursing homes in safer places. Therefore, taxes on the activities of boarding houses and hotels increased by 39%: they served as a temporary shelter for people forced to leave their homes because of the war. These departments paid the largest share of revenues to the state budget for the first half of the year - almost 46.1 billion hryvnias. However, this is still a 30% decrease compared to the first half of 2021.

According to the State Tourism Development Agency, in the first six months of the year, representatives of the industry paid 25.7% less taxes than in the same period of 2021 [1]. The total number of taxpayers engaged in tourist activities decreased by 17%..., the number of legal entities decreased by 24.5%, individuals - by 13.5% [1].

Who knows how much this number would have increased if our neighbors had not encroached on our territory and started a full-scale war.Closed airspace and high risk to life put travel agencies and companies on the brink of bankruptcy. This is evidenced by the share of tax paid from the activities of camping sites, camping sites, and children's recreation camps, which decreased by 59% - from UAH 178 million in the first six months of last year to UAH 73 million in 2022 [1].

Always for tourists from any country, safety has been and is a "top priority" during their travel period. Unfortunately, currently Ukraine, as a country with daily airstrikes and active hostilities, cannot boast of a stable security situation. As a result, immigration and business trips were effectively frozen, which led to the following consequences:

Statistics show that in the first 4 months of 2022, representatives of the tourism industry of Ukraine paid 18% less taxes than in the same period of 2021 [2]. Thus, the total number of taxpayers engaged in tourist activities decreased by an average of 17% during the first half of the war.

Therefore, it can be considered that with the beginning of the total war, the "dark" age of tourism has come. Even the coronavirus pandemic did not have such a painful impact on tourism. "When contracting the coronavirus, the only thing that stopped travelers was certain restrictions: unvaccinated - you don't go."

Currently, the impossibility of paying in hryvnia cash abroad puts Ukrainian travel companies on the "line of survival". In order to make ends meet, tourism representatives are forced to look for new partners abroad who are ready to help with complex payment transactions. In addition to the fact that the hryvnia exchange rate is greatly undervalued, which is facilitated by the large flow of refugees, our national currency is often very difficult to exchange in general. After all, the hryvnia is not a freely convertible currency, and even in peacetime there could be problems with its exchange for local currency in other countries.

It is appropriate to note that many people encountered the fact that in some neighboring countries, 1600-1800 dollars were offered for 100 thousand hryvnias, while in reality it should have been an amount of 3500 dollars [3].

However, although the state of the tourism mechanism is, to put it mildly, disappointing, it is still worth emphasizing that tourism is slowly returning to life in Ukraine. The constant pressure combined with the desire to learn more about their country and distract themselves from the flow of information about the war in Ukraine forces Ukrainians to travel again. Statistics show that Ivano-Frankivsk, Lviv, Kyiv and Odesa regions are popular in terms of the amount of taxes paid. The largest amount of tax paid for the first half of 2022 was demonstrated by the city of Kyiv and the Lviv, Ivano-Frankivsk, Kyiv, and Odesa regions. "Growth was demonstrated by Ivano-Frankivsk (63%), Lviv (51%) and Kyiv (16%) regions. But if we compare the amounts with the same period of 2021, then in Kyiv and Odesa region there was a decline. In Odesa - by 82.3%, and in the city of Kyiv - by 34%" [1].

In addition, movement on the territory of Ukraine is also not prohibited. However, it is worth checking with regional military administrations, local authorities, national emergency services, the police or the military regarding travel safety and rules for visiting certain tourist sites or areas. At the same time, travelers or tourists need to know about the presence of shelters on the route, tour operators and guides need to take into account the location of bomb shelters to form the route, because they are responsible for human life. Travelers should also be aware of curfews. It usually lasts from 23.00:05.00 in the evening until 23.00 in the morning of the next day, but the duration may vary in some regions, so you need to check the exact time.

Outbound tourism also picked up a bit in the summer. Travel agencies have resumed work, often organizing tours for those who have the right to leave Ukraine. People wanted to rest at least a little.

So, what are the future prospects of tourism business in Ukraine? The tourist boom in Ukraine continues and we will definitely enter the TOP-5 tourist countries of the world. However, for the development of the industry, it is necessary to create the right conditions: if all this war horror passes, and our government understands that there are many workers in the tourism industry who can afford to pay taxes; if he does not take steps that actually paralyze the tourism model, then there are prospects. But at this point, travel firms need to be creative to retain customers and provide quality desired travel services.

In recent years, changes in the tourism industry are mainly reflected in two aspects:

Travel is becoming more and more popular (the total annual growth rate of the number of travelers worldwide is 5% in 2008-2019).

On the one hand, the type of trip (leisure, business trip), destination (seaside, city, adventure, etc.), duration (short-term, long-term), distance (short-term, medium-long) and experience (culture, adventure, health me, food) Diversity leads to severe market fragmentation, and different industry players tend to focus on their own market segments.

On the other hand, passengers of different travel types are willing to pay different price ranges and have different preferences for the flexibility of travel plans. Especially in the tourist travel market, the diversity of passenger behavior and needs is more evident. The development of new technologies has significantly changed the industry value chain and at the same time created many new formats (search engines, aggregation platforms, OTAs, collaboration platforms, etc.). Extensive travel experience, etc.).

Before the new corona epidemic, the tourism industry had already undergone a round of comprehensive transformation. Traditional travel service providers (traditional travel agencies, tour operators, etc.) are already seeking transformation to become closer to end customers again. However, due to their outdated business model and strained financial situation, there are many players that have gone bankrupt, an example being the century-old company Thomas Cook. At the same time, traditional players are also facing competition from new digital platforms.With rich content and a great search experience, new platforms have quickly taken over the market. In addition, major content platforms have invested heavily in technology and marketing to deepen passenger insights and strengthen direct sales channels. By increasing sales revenues, they also consolidated customer loyalty.

In this context, the outbreak of the new corona epidemic negatively affected all links of the industrial chain:

Suppliers have drastically reduced their operations (landed flights, closed hotels, etc.) and this has undoubtedly hit the middlemen as well. Short-term, medium-term and long-term demand is still unstable, combined with various new epidemic prevention measures, it has had a profound impact on the consumer behavior and experience types of leisure tourists.

To make matters worse, the rise of telecommuting and changes in the economy have also reduced the most profitable business trips to almost nothing.

Changes in two major mobility markets

- Rest / holidays

This market accounts for 80% of all tourists and includes individual, group and family vacationers. Generally speaking, in this market segment, travel budget (related to disposable income) and time are the main factors influencing travel decisions and schedules, while purchasing methods are mainly determined by the

type of tourist (such as the number of people traveling together , demand for familiarity with digital technologies, etc.).

In recent years, travel bookings through traditional travel agencies worldwide have declined by 6%, while direct sales by service providers have increased by 29%. At the same time, the travel market continues to divide, and more franchise travel agencies are beginning to provide individual, specific services.

Under the influence of the epidemic of the new corona, the tourist travel market is mainly affected by two main influences.

The epidemic situation in the tourist destination has affected the safety of travel and is a decisive factor for the travel of tourists.

In terms of the availability of tourism services, the availability of tourism products has declined significantly in almost all markets.

- Business

As a market segment that accounts for 20% of global tourists, the main factor influencing this market is work-related travel needs. Therefore, unlike vacation trips, the duration of a business trip is determined by specific work needs.

At the same time, business travelers often use business travel services and travel management companies manage the business travel needs of employees. Obviously, due to the high volume of trips and unified management optimization, general business trips can often receive more favorable services and prices.

There is no doubt that the new corona epidemic has significantly reduced the number of business trips, and remote work and online meetings have become effective alternatives to business trips. Thus, the prospect of a resumption of business travel adds more uncertainty than leisure travel. We believe that once the epidemic returns to normal, business travel may pick up again. However, due to inertial reasoning about saving time and travel costs, many non-essential business trips can be shortened.

Impact on industrial value chains

In recent years, various players in the industry have been constantly transformed, and the impact of the worsening of the new corona epidemic on them will immediately be reflected in the medium and long-term development in the future.

Consumer

There are two main groups of consumers in the travel industry: leisure travelers interested in a variety of travel (including individual travel, group tours, group travel, etc.) and business travelers. Modern consumers can find more information about tourist destinations, travel options are increasing, and new

services that can replace traditional services are emerging in an endless stream, which also brings more convenience to consumers. Other industry players are also working hard to reach, understand and inspire consumers. In the epidemic situation, the flexible booking policy (free cancellation and change) may become the main point in the future and change the status quo in the industry.

In the past, traditional suppliers mainly focused on their own business operations and mainly used intermediary channels for distribution. Of course, in recent years, due to cost considerations, they have also gradually cultivated direct sales channels, constantly actively contacting consumers, increasing the number of consumers understanding and using Optimize personalized services to win customer loyalty.

The new corona undoubtedly has a serious impact on the financial and business structures of traditional travel service providers.They must adopt structural changes, seek new financing or capital increases, and improve their balance sheets to survive this crisis. These financial difficulties are already accelerating the pace of industry consolidation.

At the same time, in such a period of high uncertainty, players should adjust their methods, focus more on short-term planning, and focus on providing customers with flexible refund and reform policies.

The transformation of the travel intermediary model in recent years is mainly due to technological advances and changes in consumer channel preferences.

The business of traditional travel agencies was declining long before the epidemic, and the impact of the new corona epidemic further reduced the supply of products on the market.

On the contrary, online travel agencies (OTAs) have better financial performance and more positive dynamics and are therefore better positioned to withstand the crisis. Many OTAs have also opened offices in prime urban locations to try to tap into the offline market.

It should not be overlooked that the model of tour operators also needs adjustment. Before the epidemic, its rigid model and large assortment no longer correspond to the new trend of flexible and personalized consumption. For them, the key to successful transformation is whether they can reproduce new and dynamic products.

Technological platform

Technology platforms are built on disrupting traditional business models, and their long-tail advantages allow them to meet the needs of specific passengers in many market segments that have flourished in recent years. The epidemic has increased passenger demands for "security", which will be a key development in

the development of the platform, and whether it is properly addressed will also determine the future of the platform.

It is impossible not to notice the role played by state authorities in the support, development and protection of the industry. Regulatory policies of international, national or local governments can not only significantly affect the scale of the tourism industry, but also affect the distribution and operation of the industry chain between players in different industries. For example, limiting technological platforms in the provision of certain services, introducing restrictive measures to protect travel or tourism promotion policies, etc.)

Changes and trends

Advances in technology, new business models and changing consumer habits have driven a series of industry changes, fundamentally changing the value chain of the travel industry. These factors are mainly as follows:

1. Competition for consumers

New digital business models and business opportunities are emerging in an endless stream of online and digital markets, pushing traditional service providers (hotels, airlines, cruise lines, etc.) to get closer to consumers. The main countermeasure is to vigorously develop your own digital channel strategy, covering all aspects of digitalization (revenue management, digital assets, content development, building a new IT ecosystem, etc.).

At the same time, they focus on the end-to-end digital travel experience to pay attention to each key node, support a personalized experience and increase loyalty. Data shows that in the global travel market, the importance of experience is 2.4 times higher than price, and the loyalty of consumers who have established an emotional connection with a brand is 1.7 years longer than that of ordinary consumers.

2. Consolidation versus competition

The emergence of new competitors has changed or disrupted the previous industry value chain and facilitated the integration of traditional players into various market segments (including service providers and intermediaries) to increase their competitiveness in a complex market environment.

Recent examples include the merger of Globalia and Ávoris, which combined Spain's largest travel agency group, and IAG's takeover of Air Europa.After the acquisition, IAG and Air Europa dominated Spain's domestic routes with a market share of 72%, while the five largest retail travel agencies controlled 40% of the market.

The hospitality and inbound tourism industry remains highly fragmented. Thanks to technological advancements, they don't need to consolidate anytime soon to compete with the big players. We can see that the top five global hotel groups account for only 24.9% of the market share.

3. Universal platform model

To provide differentiated value and gain a competitive advantage, many industry players are choosing to vertically integrate to optimize customer interactions and increase profit margins. In general, travel intermediaries tend to buy or open airlines, hotels, travel service providers, etc., and combine online and offline channels to increase product competitiveness.

At the same time, we observed a model of a single platform that directly connects travel agencies and tourists. The French platform Evaneous and the Chinese Ctrip are good examples. Ingles Group (mainly engaged in department stores, insurance, tourism and other activities) uses its integrated competitive advantages (rich market information of 15 million retail customers, the convenience of providing consumer credit and a strong brand in America) Influence and market share) by providing a number of targeted and differentiated services in order to deepen the tourist market of Spanish-speaking consumers. The industry as a whole will experience a simplification of the value chain, and only the players who create the highest value will survive.

4. Reformatting of the traditional model

No one has felt this shift more strongly than retail intermediaries and travel agencies. In Spain, an estimated 4,500 travel agencies now have a total of 9,500 points of sale, compared to 13,000 in 2008. In this competitive environment, only travel agencies that embrace technology, change their business models and improve the customer experience can survive.Key examples include the cruise-only superstore launched by Logitravel, the experiential sales store developed by B the Travel Brand under Ávoris Group, and the addition of new multi-channel players such as travel store PANGEA, which already has four sales stores in Spain. Examples in the field of business travel are TripActions and Travelperk, which pay more attention to digitalization and personalization.

Undoubtedly, the transformation of the industry is still underway, especially in the regions that have been hit hard by the epidemic. Players in traditional industries who have worked hard for many years are facing huge challenges. They have to swim against the current and work harder to get a place in the new environment.

5. Ecosystem integration

Globalization before the epidemic was a focus for the creation of new and new strategic partnerships and new business models. The integration of these ecosystems has not only broken down industry barriers, but also pushed traditional players not only to compete for travel bookings, but also to strengthen their positioning to meet the diverse entertainment needs of consumers.

However, traditional technology giants (Google, Amazon, etc.) store vast amounts of information for consumers and are actively involved in decision-

making at the early stages of the travel journey. The generosity of these players cannot be underestimated regarding the future direction of the industry. The best example at the moment is Amazon's investment in the virtual travel platform Explore, which aims to develop a new market segment in the search for experiences.

6. Transformation of mobility

Mobility, which is closely related to the tourism industry, is undergoing radical changes. Trends such as “smart” cities, mobility services, connected vehicles and related infrastructure have given tourists more choices and captured a portion of their wallets in travel spending in tourist destinations. These trends are helping tourism destinations improve their competitiveness and sustainability, two factors that are critical to the sustainability of a tourism destination. By 2040, self-driving car sales in the United States are expected to account for more than 70 percent of total vehicle sales14. The transformation of mobility has brought new opportunities for travel and is expected to trigger a new round of competition in the industry.

Industry trends that are likely to continue

Regardless of how the uncertainty caused by the epidemic affects the future development of the industry, we believe that a number of trends will exist for a long time and permeate the main scenarios of the development of the industry in the future. Therefore, industry players must plan ahead to ensure that their future medium to long-term development remains sustainable and takes into account the following specific features:

1. Stability

The importance of business model sustainability for the future of the industry is obvious. Consumers will pay more and more attention to the factors of sustainable development. Only players who are truly committed to social development can gain trust. In this context, incentives from various governments will also be key to encourage companies to strengthen their sustainable practices. A recent example is the well-known "New Generation EU" program, in which sustainable development is listed as one of the four main trends.

2. Sharing economy

As the sharing economy model permeates the travel industry across borders, this business model has significantly changed the mobility and hospitality markets. Whether it complements or replaces the original model, the sharing economy model will continue to grow rapidly in the future, as the benefits of efficiency and flexible structure that the model itself brings are sufficient to cope with market fluctuations.

Currently, the new management and procurement model within the sharing economy is expected to optimize and increase profits. We see alternative

freelancers playing an important role in this model, specifically, freelancers can cover 33% of IT costs, 25% of operational costs, 15% of marketing costs and 15% of R&D costs.

3. Data war

The reason industry players are looking to compete for end users and get rid of the middleman model is to get as much consumer data as possible to drive better business decisions and improve operational efficiency. Of course, both internal and market data are key to making the right decisions. Leveraging data not only informs business decisions, but is also key to developing personalized travel experiences. Approximately 85% of travelers use smartphones while traveling, 97% of millennials share their travel photos on social media, and 80% use public Wi-Fi while traveling. In addition, there are many more touch points for visitors.

At the same time, artificial intelligence and machine learning will be the key to making full use of data. These two technologies can provide real-time recommendations and perform automated actions according to the law. About 60% of travel marketers believe that machine learning increases the company's competitive advantage.

4. Content is the main thing

The essence of the tourism industry is experience, which requires industry players to create high-value and differentiated content to firmly engage consumers at all stages of the journey. To create high-value content, the industry needs to build partnerships and ecosystems to make the entire creation process more innovative and flexible. In this area, startups and influencers can play an important role in accompanying the success of traditional enterprises. About 85% of travel videos on YouTube are created by individuals, not brands or institutions.

5. Uncertainty of the future

Profound changes in the current industry have already occurred or are becoming visible. Industry players must face uncertain factors that affect their strategy and business (even survival) in order to formulate corporate strategies and business plans.

We have seen that uncertainty affects industry players and types of travel differently, and the potential impact on each player will also be different; looking ahead, given the volatility and potential impact on the industry, we believe the following five factors deserve the most attention.

1. Expanding Emerging Economies (Middle Class)

Before the pandemic, with the development of emerging economies, there was a significant middle class that was very interested in outbound travel. Emerging economies will bring an additional 1 billion tourists in addition to the existing 1.4 billion tourists per year, and this increase in demand will greatly affect the existing structure of the tourism industry. This factor, especially China, will

have a profound impact on the global tourism industry, especially on the world's most popular tourist destination, Europe.

2. Available technology perfectly replaces offline experience

This will affect both leisure and business travel as new digital journeys enabled by technology replace traditional offline experiences. In the field of tourism travel, technologies such as VR/AR and video games can create experiences, allowing consumers to satisfy their needs for a variety of experiences from the comfort of their homes. In the field of business travel, the trend of remote work and digital interaction is gradually increasing, which can completely eliminate the need for business trips. At that time, offline travel will only prevail when certain experiences cannot be replicated online. In other words, innovation by traditional industry players will be the key to winning the competition. At this point, traditional players need to review their facilities and equipment configuration to consider profit maximization from an asset perspective.

3. Technological giants continue to develop

Although tech giants are early adopters in the travel industry, their market penetration is still lacking (e.g. Google Flight, Amazon's travel product in India - Amazon Explore, etc.). In the future, the investment and development of technological giants may completely change the competitive landscape of the tourism industry, and thus become an important factor of uncertainty in the industry. In particular, they have a high possibility of entering the virtual tourism market and as a tourist intermediary model. In addition to giants like Google, Facebook, and Amazon, “sharing platform” tech companies like Uber and Airbnb can’t be ignored. These platforms are also expected to expand overseas and expand into other areas of business. For example, Airbnb launched a virtual user experience plan .

The global lockdown in recent months has also further strengthened consumers' digital consumption habits, which will help tech companies expand their territories in areas they are good at and provide consumers with personalized experiences based on collected data. Of course, digital regulatory policies on data management and privacy have strengthened users' rights to information privacy, which is also a limiting factor that technology companies must adhere to in their development.

4. Local conservation and state policy

To reduce tourist congestion during the epidemic, more and more policies and regulations have been implemented to protect destinations (such as limiting the number of tourists, requiring advance reservations, etc.). According to the new norm, passenger traffic will be redistributed and regulated, which will inevitably lead to uncertainty. This factor is directly related to the rise of "local" tourism. Under this trend, as local protective barriers limit the supply of goods, prices are

sure to rise, potentially reducing consumers' financial freedom to travel. On the one hand, the government has introduced policies aimed at reducing crowding, on the other hand, in order to attract funds to tourist destinations, tax and regulatory policies will also be introduced to encourage tourism. Some policies and safeguards have also been introduced recently, mainly targeting specific business models that harm consumers' interests (such as rescheduling airline tickets), but this also limits consumer travel choices.

A change in the trend in favor of consumers will undoubtedly be one of the main uncertainties. For emerging business models (eg buy-now airline tickets), success is still uncertain due to changes in regulatory policy.

At the same time, we should not forget about the impact of geopolitical factors on travel (such as Brexit, Sino-American friction, etc.).Will this political struggle continue in the future? How will they affect the number of tourists? and more

The future of the tourism industry

The Scenario Planning® tool can be used to identify and understand key future uncertainties and take appropriate action. Among all the uncertain factors, we have chosen two factors that are most critical for the development of the industry:

1. It has a direct impact on the competitive landscape;

2. Uncertainty that may arise from the emergence of disruptors or new players.

In particular, we take into account the influence of the following factors:

- Growth-dependent demand factors in developing economies (middle class).

- The supply factor, which depends on whether the technology can perfectly replace the offline experience, and the price should be as close to people as possible.

The interaction between these two key factors of uncertainty served as the basis for the construction of four scenarios that will help us understand and describe the possible future direction of the global tourism industry:

Scenario 1: Return to the era of happiness

As the middle class grows in emerging economies, so does the demand for travel, but the tourism industry

The limited supply of tourism has significantly raised the prices of tourist products.

The expansion of the offer of accommodation, food, leisure etc. still cannot meet all the expected demand and the supply is limited. Currently, only those consumers willing to pay more can travel to the most popular destinations (eg Paris, London, etc.).

Mid-range travel packages are back again, covering a new segment with a huge increase in offerings.

The prices for the differentiated experience will be very high and quite specialized.

Scenario 2: Development slows down

Growth in emerging economies has slowed and demand for travel will remain at pre-pandemic levels. At the same time, the offer will remain at the same level. At the moment, the industry is not expected to grow, but to remain at the same level for a long period of time.

Scenario 3: Reengineering of tourism

If the development of technology can perfectly simulate the offline experience at a price close to that of humans, then some people will switch from the offline experience to the virtual travel mode. Based on this, and given the significant growth of emerging economies, the enthusiasm and availability of the middle class for new experiences and travel, the travel industry needs to rethink itself. In such a scenario, offline products are becoming less and less, and consumer expectations are becoming higher and, of course, they are willing to pay more.

Off-chain travel providers will have to launch unique products to avoid low-cost copycats through technological means. At this time, all industry players will focus on producing content to meet the needs of the online market.

Scenario 4: virtual travel

In this scenario, demand for travel remains stable due to slow growth in developing countries, and technological advancements enable online experiences to be replicated at affordable prices. At that time, the physical world and the online world will co-exist, and industry players will have to compete for business in both worlds simultaneously. It's no surprise that players have to offer competitive prices and provide the best online and offline experiences.

We are already seeing several examples of this in several industries and will see continued growth in the coming years:

Concerts: There are already virtual or online concerts. Such concerts can reach a larger audience. For example, the virtual concert of the rapper Travis Scott "Bunker Night" gathered 27.7 million viewers, and the replay after it received 77 million views (YouTube and Twitch platforms)

Esports has a total audience of almost 600 million worldwide and a market worth US$1.5 billion (European market: €375 million, 25% annual growth).

Television: With millions of users and rich and interesting content, Twitch and other models are in direct competition with Netflix, HBO and other television and content platforms, competing for the limited free time of users.

In addition, we conduct a comprehensive scan of four aspects: key drivers, industry impact, performance and growth:

A detailed analysis of the components of each scenario is as follows:

1. Consumer

A large number of consumers travel and can be divided into two main groups: "tourists" and "travelers". Tourists mainly consume standardized trips in the middle price range, with prices rising slightly due to lack of demand. Travelers can afford a personalized journey and enjoy products specially designed for them.

Brokers (Wholesale/Retail)

Tour operators will launch more standardized products, and because of their competitiveness in product development, they will have a stronger voice than travel agents.

Travel agents must position themselves well, approach their target customers, and satisfy customer needs in order to win a certain market share.

High-end travel will be more personalized, so the services of a professional travel consultant are required.

Service providers (hotels, airlines)

Service providers can develop and produce highly competitive products aimed at the needs of the mass market, and they will rely heavily on popular destinations and try to avoid destinations that may have political, environmental and other risks.

Technological platform

Technology platforms will continue to play an important role as they bring demands that cannot be met by traditional service providers. They will seek to provide more attractive products and attract more customers at competitive prices.

2. Consumer

With fierce competition in the industry, consumers will have stronger bargaining power, so they can buy the best products and services at the most competitive prices. Among them, consumers with high purchasing power are ready to pay a premium for receiving appropriate differentiated services.

Some business trips will be replaced by video conferencing, so the demand for business trips will drop dramatically. A business trip is chosen only when an offline meeting is important.

Brokers (Wholesale/Retail)

Tour operators will face more competitive pressure and will therefore be forced to offer the lowest priced tour packages. It is almost impossible to launch differentiated products and services in a more competitive environment, and at the same time, travel agencies must adopt a more compact structure to adapt more quickly to the market environment.

Many tour operators had to consolidate and retail travel agencies found it difficult to differentiate their products and services in order to survive.

Service providers (hotels, airlines)

Traditional service providers face limited demand. In the future, they will need to adopt more aggressive pricing strategies to increase customer base while providing differentiated products and services to customers who are willing to pay more.

To survive, some industry players will consolidate their businesses, investing in low-cost differentiated assets that will always adapt to customer needs and expectations.

Technological platform

To reduce operating costs, technology platforms must provide services at very competitive and affordable prices. They mainly rely on intangibles to distance themselves from traditional players. In particular, new products or services that complement the core product will be too expensive to offer a competitive price, and as a countermeasure they will adopt a monthly subscription model (like Netflix) to increase customer satisfaction. , seek to allow providers to publish more differentiated services/products on their own platforms, giving consumers a wide choice.

3. Consumer

In this scenario, consumers can be divided into two categories. The first type of consumer has a high purchasing power and is willing to pay for travel (offline travel will become a status symbol at this time, like a luxury). The second category of consumers is mainly middle-class. Due to price factors, they cannot choose offline travel or can only choose local travel and specific tourism activities.

1. Travel and related activities are organized with great care and the experience provided is precisely tailored to the preferences of consumers.

2. On the Internet, consumers not only want to see content, but also want to interact and even participate in the production process. In a sense, it is a new way to see yourself and interact with your environment in a virtual environment.

As such, this experience should provide "internet users/gamers" with the tools to express themselves (similar to how social media has become a means of self-expression and online gaming has become a social network for younger generations). In this scenario, consumers expect themselves as “travelers/players” to adapt and create a part of the virtual environment. (Note: For the latter situation, there are already many projects like "Minecraft", "Machine Bricks", etc.)

Brokers (Wholesale/Retail)

In this scenario, offline travel will no longer need wholesalers (it will be more of a direct sales model), and only high-end, bespoke retail travel agencies

that provide comprehensive products and maximize the level of personalized service can survive.

Virtual reality/content is associated with the rise of content/gaming/VR journey "distributors" who will bring together most content producers and be responsible for content distribution, and at the same time they will probably get the rights to major tourist areas, install people to contact and apply for a patent for virtual travel or travel in a unique environment.

Service providers (hotels, airlines)

At this time, both accommodation and transportation services are "double" high, meaning the industry has a high degree of concentration and a high degree of specialization. Industry participants should focus on end-to-end integration of the industry chain or cover the entire industry cycle through close cooperation between intermediaries. At the same time, service level and personalization are key differentiators.

A new class of service providers will emerge, primarily concerned with creating virtual experiences (real or otherwise). And this market is likely to be very fragmented, and the best of them may be acquired by large publishers (providing expertise, content portfolios and core capabilities related to marketing or using user data to create new content).

Technological platform

The emergence of two types of technological platforms is expected:

1. A class of platforms will use artificial intelligence and advanced analytics to design memorable journeys for high-end travelers.

2. Another type of technology platform distributes leisure in large quantities, including:

A. A highly interactive and realistic "virtual reality" travel experience. These simulated virtual tours will not be static, but varied and user-friendly (more like a video game than a video).

B. By traveling in a virtual world, consumers can have experiences that go beyond real life (eg, travel in virtual "zero gravity", travel in movies, books, fantasy worlds, etc.). In this experience, there is a clear line between the virtual world of travel and the unreal world of video games and the world of digital entertainment (such as VR concerts or episodes).

4. Consumer

The global traditional tourism market is showing lower growth rates due to the saturation of tourism demand in developed countries, while the growth rate of the middle class in developing countries has slowed down. Thus, consumers looking for a traditional travel experience will have strong bargaining power when dealing with service providers and can make higher demands on service quality and price.

At the same time, there will be a new group of consumers who prefer digital virtual experiences to traditional travel so that they can take full advantage of lower prices than traditional travel.

Brokers (Wholesale/Retail)

As demand for traditional travel stagnates, intermediaries will face greater competitive pressure, reducing profit margins for service providers, their core customers. This trend will further lead to greater consolidation of the industry, and small and medium-sized players are expected to be forced out of the market. Leading industry players can use their huge customer base to achieve business transformation and focus more on product and visitor personalization.

To survive, the industry's big players must invest in artificial intelligence and advanced analytics to build closer and more unique relationships with customers.

Service providers (hotels, airlines)

Traditional service providers will face two challenges:

First, the growth rate of demand will slow down, competition for consumers will intensify, suppliers must produce quality products at low prices.

Second, consumer preferences are shifting toward digital and virtual experiences, driving industry-wide changes in business and operating models. The main drivers of this transformation are investments in advanced business analysis and the development of a differentiated digital experience, which also leads to a number of internal and external changes, including closer relationships with end users, transformation of the organizational structure and integration with the middle renegotiation of commercial contracts.

Third, some traditional providers will promote business diversification, in particular, they will cooperate with new digital experience providers or develop their own products to compete with them.

Technological platform

Changing consumer preferences for digital experiences is good news for technology platforms. Technology platforms have stronger innovation capabilities and can launch new products quickly and flexibly. It is conceivable that when such experiential products are launched on a large scale in the early stage, the competition is mainly concentrated among the tech giants (such as Amazon, Apple, Google, Facebook, Netflix) and eventually there will be one or two winners who lead the market .

To attract and retain users, customer loyalty strategies (such as subscription models) and the development of new social networks of players in various industries will be key to success. In addition, data analysis will be the basis of the competitiveness of each player company, because data analysis is necessary to create an experience that meets the preferences of each consumer.

Conclusions. Thus, the crisis of the coronavirus epidemic, and then the full-scale war of Russia in Ukraine, seriously affected the tourism industry. Before the epidemic, the tourism industry was experiencing rapid growth and expansion. Many analysts believe that the tourism industry has many opportunities and a bright future. However, the impact of the epidemic has allowed us to see the fragility of this industry and help us reflect deeply on the uncertainty of the future gender.

With changes in consumer behavior in recent years, major technological developments and the emergence of new players, new travel patterns are on the horizon. However, the current crisis also encourages us to plan ahead.

Under the influence of the new corona virus epidemic and the full-scale war of the Russian Federation in Ukraine, industry trends that were important at first have changed:

- In the short term, new relationships and remote work are forcing people to reconsider existing methods of travel and leisure due to safety and epidemic prevention requirements.

- Although this situation may change in the medium to long term, there are some changes that are likely to persist in the long term:

Telecommuting has the potential to completely disrupt business travel, and new consumer demands for environmental safety will impact new ways of traveling and ways of experiencing.

A significant disruption to the tourism industry due to the pandemic could reverse a huge trend caused by previous changes in the industry's value chain. At the same time, traditional business models, with their stability and reliability, may also return.Ecosystems are increasingly converging and this will have a significant impact on travel patterns, especially after the current turbulence that requires businesses to “change every day”.

Current trends will become a key part of the future. Looking to the future, regardless of the mode of travel, sustainable development will be a key factor, and the rise and prosperity of the sharing economy and the best travel experience are also elements that cannot be ignored.

Although the impact of the current crisis has not disappeared, in this report we have identified several uncertainties that may have a significant impact on the industry, so that we can derive different future scenarios according to the development of the situation and take different countermeasures.

Overall, uncertainty factors help us create different development scenarios, observe the relationship between these scenarios and models, as well as the differences between different industries, and ultimately emphasize that players in each industry must find their own place to be ready for victory in the future.

On the other hand, the current war in Ukraine has practically destroyed the tourism industry. Closed airspace, payment difficulties and unstable security situation seem to prevent the creation of all the necessary conditions for the "survival" of the tourism industry. However, despite the difficult situation, the Ukrainian tourism business continues to work. He adapts to the new reality, finds solutions, lays the groundwork for his further development and works for a common goal - victory in Ukraine.

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6. INDUSTRY 4.0 DEVELOPMENT TRENDS IN UKRAINE IN THE POST-WAR PERIOD

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Introduction. The world becomes completely other. The modern digital era is rebuilding all mechanisms of state interaction and society. With the advent of new technologies, the principles of human communication, trade and making deals have changed. In order to remain competitive and survive in the future, business is forced to maneuver very quickly, to master new opportunities in modern markets, especially in the digital one.

Thanks to the use of an ordinary smartphone, everyone can permit to communicate with partners from different parts of the world in real time. Mobile technologies have become the driving force that has transformed traditional retail financial organizations into digital banks, and innovative models of work in the digital environment have appeared. Today, this innovative sector is called fintech (financial technologies, Engl. FinTech). Fintech - technologies that help financial services and companies manage the financial aspects of business: software, applications, processes and business models. It is an industry where companies use new financial technologies and solutions to compete with traditional financial institutions. Today, fintech is the basis for all online transactions – money transfers, lending, utility payments, etc.

Humanity has turned the smartphone into an even smarter device - a device for transactions. For the first time, we are all able to transact and trade with each other in real-time, face-to-face, 24/7 - "anywhere, anytime and always."

Literature review.

The new innovative trends brought to the world economy by modern information and communication technologies have been talked about for a long time. Recently, terms like "Smart", "Digital Factory" and "Digitalization" have been heard. This is where the name "Digital Economy" comes from. At the same time, everyone is talking about the development and wide implementation of innovative technologies: IoT, Big data, Cloud computing, Remote & mobile access, wireless communication, 3D printing, etc.

According to Professor Klaus Schwab (Swiss economist, founder and president of the World Economic Forum in Davos), said in 2016 [1]: "We are standing on the threshold of a technical revolution that will completely change the way we live, work and communicate. We expect the greatest transformation in the history of mankind – the largest in terms of scale and complexity. We do not yet know exactly how this revolution will take place, but it is already clear that the answer to it must be appropriate in terms of the scale of the revolution itself; all participants in global politics must change, all players, from private to public sectors, both the academic world and society itself must change.

There are three signs by which we can judge that today's changes are not just continuing the third revolution, but are harbingers of the Fourth. These are speed, scale and systemic effects. Humanity has never seen such rapid technological progress. Compared to past linear industrial revolutions, the scale of the Fourth is increasing exponentially. The fourth revolution affects every industry in every country in the world. The depth and breadth of the changes caused by it require the transformation of entire production, management and control systems.

According to the characteristics of the 4-th industrial revolution given by Klaus Schwab in [1], its advantages and why it is not a continuation of the 3-rd revolution:

- unprecedented (exponential, not linear) growth of innovations – this refers to their speed, volume and impact; it will provide a significant improvement in efficiency, productivity and cost reduction;
- the unprecedented growth of data and the possibilities of using it for new technologies gives more and better involvement of people in the chain: developer - user - client;
- artificial intelligence is becoming a reality – we can already see concrete examples of their use from mass robotics to biotechnology.

The first industrial revolution used the power of water and steam to mechanize production. The second industrial revolution used electricity for conveyor production. The third – automated production with the help of electronics and information technologies. The fourth industrial revolution is based on the third

- since the middle of the last century, the digital revolution has been going on in all spheres of life. Technologies are merging, and the boundaries between the material, digital and biological worlds are blurring.

For the first time, the term "Industrie 4.0" ("Industry 4.0") [2] was presented in April 2011 at the Hannover Fair by three representatives of business, politics and science Henning Kagermann, Wolf-Dieter Lukas, Wolfgang Wahlster, who get the initiative to increase the competitiveness of the German economy

In the report, they presented how the paradigm shift will occur in the future industry. In the coming decades, new business models based on cyber-physical systems should appear.

The Fourth Industrial Revolution [2] (English: The Fourth Industrial Revolution – Industry 4.0, German: Industrie 4.0) – a concept that means the development and merging of automated production, data exchange and production technologies into a single self-regulated system, with the least or no human intervention at all in the production process.

The term "Industry 4.0" [1] was defined as "a collective term for technologies and concepts of the organization of the chain of added value" using cyber-physical systems, the Internet of Things, the Internet of Services, and Smart Factories [3]. This phase of the industrial revolution is characterized by a confluence of technologies that blurs the boundaries between the physical, digital, and biological realms.

Chris Skinner is known as an independent observer of financial markets and financial technologies, and is the author of fundamental works 1. Digital Bank ("Digital Bank", 2014), 2. ValueWeb (2016) and 3. Digital Human ("Digital Human", 2018).

He heads the European Network Forum of the Financial Services Club and Nordic Finance Innovation, and is also a non-executive director of the Fintech consulting agency 11:FS.

Chris Skinner is a regular financial and banking columnist for BBC News, Sky News, CNBC and Bloomberg and has described the history of money as a mirror of human history [5]: "Money is like sex, religion or politics: it is not customary to talk about them openly. However, it is precisely these uncomfortable topics that define our lives, and money – is at the heart of each of them. The history of money, like a mirror, reflects the history of humanity. You soon convince, there have been three great revolutions in human history: first human communities were formed, then civilizations, then industry. We are currently living through the fourth great revolution, and in the near future there will be a fifth. And since each revolution brings truly revolutionary changes in the sphere of money exchange and values, it is important for us to think in context, to reflect on the past in order to understand the present and predict the future."

At the Hanover Fair 2013 "Integrierte Industrie" (integrated industry) [6] the director of the Institute of Production Technology in Aachen, Fritz Kloecke, characterizes: "Industry 4.0 means that we want to internetize factories."

The third industrial revolution, which was characterized by new materials, the use of robots and centralized control systems, will be replaced by the Internet of Things based on cyber-physical systems in the fourth industrial revolution, and here Ukraine should not lag behind other European countries.

In the "Association of Industrial Automation Enterprises of Ukraine" [7], they explain that "digitalization - how the penetration of digital technologies, automation and IT into all levels of life and economy began in the last century and was called technological order 3.0. And it continues to this day. But what the Germans and Americans have brought in recent years sheer new is a certain rethinking of how companies do business. The horizontal and vertical integration of IT, the combination of different technologies, the creation of new cyber systems and artificial intelligence is changing business models and ways of doing business. It is interesting to observe how the rankings of the world's companies migrate – in 2015, in the ten richest, we see complete dominance of software and service companies – and not those that produce oil, gas or metal. Although this is how it was a few years ago."

That is, the phenomenon of changing business models thanks to digital technologies took place. In Ukrainian terminology, the term "4-th industrial revolution" should be distinguished – it refers to all spheres of social life, where new technologies penetrate, and "Industry 4.0" – refers to new technologies and production models in industry. The common denominator of both categories is 4 key areas of revolutionary change: IoT, Data Driven Decision (Big data analytics), Connected machines, Artificial Intelligence. The "Platform Industrie 4.0" [8] joins several thousand companies promoting research, innovation, training, etc. in the field of digitization of production technologies.

Results.

In the future, the digitalization of humanity will ensure the general coverage of production, financial and entertainment services. For the first time, a system of mobile networks appeared, to which every inhabitant of the planet can connect, becoming a participant in the global economy, without leaving his home or office.

Everyone will become a hub of a global network and will get a chance to communicate, trade and exchange with anyone in real time. Cansel the industrial revolution, in which only a few gained access to goods and trade channels, the digital revolution gives everyone a chance.

Industry 4.0 technologies collect and analyze data from various spatially distributed technical devices, and provide faster, more efficient and more flexible processes for the production of goods of higher quality at reduced prices. The fundamental difference of Industry 4.0 is that it makes a revolution in the process of adapting production to the needs of each person, making it virtually continuous.

If in the conditions of the Third Industrial Age man is still involved in controlling the operation of automated production lines, correcting errors in their work, then in the Fourth Revolution this is done by "intelligent" machines that will be combined into one network using the "Internet of Things" and exchange data among themselves in real time, adjust yourself and learn new behavior patterns yourself.

In the future, thanks to the technological revolution, Internet connection and 3D printing capabilities, every citizen can become a participant in the global economy, regardless of where they are and when they work. All routine and difficult physical work is already performed by robots and automated lines, and in the future it will be up to humans to generate ideas and make important decisions.

The enterprise of the future cannot do without highly qualified personnel (technicians, programmers, engineers). Therefore, the state should pay great attention to the education and improvement of the qualifications of its employees. Industry 4.0 encourages the creativity of inventors and developers for new types of products.

After the end of the war in Ukraine, the economy should be rebuilt taking into account the Internet of Things in the industrial environment and individual construction. Thanks to the digitization of the production of industrial and everyday products with integrated communication capabilities (radio transmitters), intelligent software systems create a combination of virtual and real worlds.

However, the business potential of the 4th industrial revolution lies not only in the optimization of operational processes, but also in its services for a wide range of applications. Therefore, the Internet of Things is complemented by the so-called "Internet of Services", since smart products offer their capabilities as intelligent services. This new generation of products can independently share information, stir actions, and control each other over the Internet using machine-to-machine (M2M) communication.

Billions of people have gained new opportunities thanks to constant communication with each other using mobile devices with ever-increasing power, memory and data transfer speeds, and provide access to all the knowledge of humanity. And these communications opportunities will grow many times over in the future: new achievements are being made in innovative fields – artificial intelligence, robotics, the Internet of Things, autonomous transport, 3D printing, nanotechnology, materials science, new batteries, quantum computers, etc.

Already today we are dealing with artificial intelligence – drones (which fly, swim, drive, transport cargo), virtual online assistants, online and offline translation programs. Constantly growing computing power and ever-increasing amounts of data allow rapid breakthroughs in the development of artificial intelligence.

Now there is an idea that robots will take jobs away from people and they will be out of work. A similar situation existed at the end of the 18-th - beginning of the 19th century, when spontaneous demonstrations of factory workers began against the introduction of machines (looms) and the increase in their exploitation in Great Britain. But these looms only increased the standard of living in the society, and the workers found other jobs, changing their profile.

But the modern digital revolution will not be a repetition of that industrial revolution. The Industrial Revolution meant an increase in demand for the use of human brains and a decrease in demand for the coarse physical strength of workers. Smart machines probably won't kill us all, but they will definitely take our jobs, and that process has already begun. Computers will get smarter all the time, and smart engineers will design even smarter robots.

Computers will become as intelligent as humans, even smarter. In addition, computers never get tired, they are never bad, they never make mistakes, and they have instant access to all human knowledge, working 24/7.

Let's recall the path humanity has taken since the invention of the first ENIAC computer in 1946 in Philadelphia by John Mockley together with Presper Eckert. This "little miracle" weighs about 30 tons and has an area of 167 square meters. m consisted of 18,000 electronic lamps, performed 5,000 operations per second (!), consumed 150 kW of electricity.

In 1959, one of the founders of Intel, Robert Noyce, invented the first integrated microcircuit. And already in 1971, the first 4-bit Intel 4004 – microprocessor was created an electronic device for data processing in a computer. It housed 2,300 semiconductor transistors, but fit comfortably in the palm of your hand. In terms of performance, the new processor was not submit to the ENIAC computer.

In 1974, Intel developed a new 8-bit Intel 8080 microprocessor. Its architecture and instruction system proved to be so successful that it is still considered a classic today.

In 1975, the American engineer Henry Roberts created the first personal computer ALTAIR 8800 based on the Intel 8080 microprocessor, which started the rapid process of computerization of the population.

In 1975, Bill Gates and Paul Allen founded the Microsoft Corporation and developed the first PC software at the same time. All this contributed to the reduction of information processing costs.

On August 12, 1981, the American company IBM presented the first model of a personal computer – the IBM 5150, which marked the beginning of the era of modern computers.

The first computer in the Apple Macintosh line was released on January 24, 1984. It was the first commercially successful personal computer based on a graphical interface and using a mouse instead of a command line interface.

With the creation of modern computers and data transmission systems, the emergence of new microprocessor technology and the information processing industry, we smoothly entered the era of Industry 4.0.

Information and knowledge have become the most important branch of mass production. Information technology with its incomparable amount of memory and speed of information transmission began to influence all spheres of human activity: birth, education, work, production, consumption, relationships, feelings.

And at the present time, we are all at a stage of development in which the development and fusion of automated production, data exchange and production technologies have taken place into a single self-regulating system, with the least or no human intervention in the production process. The isolation of this stage of the development of society is due to the emergence of technologies and concepts of the organization of the chain of creation of additional value using cyber-physical systems, the Internet of Things, the Internet of Services, and smart factories [3]. This stage of development is characterized by the fusion of technologies that scoop out the boundaries between the physical, digital and biological spheres.

Production and consumption systems will be join to one network using the Internet of Things, will communicate with each other in real time, adjust themselves and learn new behavior patterns. Therefore, these systems will design production and supply with fewer errors, maintain contact with already produced goods, and adapt to new consumer needs without human intervention. In the last decade, methods of processing big data (Big Data) – large volumes of structured and unstructured data for their use in various tasks have appeared.

Representatives of high-tech business emphasize that in the coming decades we are expecting a violent development of computer automation, but still with a clear organization of processes: improvement of production chains, building of closer inter-level connections, development of software products for calculation and design. Drivers of changes in business will be cloud technologies, the development of methods of collecting and analyzing Big Data information, crowdsourcing (using the desire of consumers to share their ideas with the company for free or at a small price, solely because of the desire to see these ideas embodied in production), sharing economy and biotechnology.

Digital technologies are combined with physical media every day. Engineers, designers, architects work with computer modeling, 3D printing, develop new materials.

The "Association of Industrial Automation Enterprises of Ukraine" [7] named the advantages of new technologies:

- lowering the cost and speeding up integration (horizontal and vertical) – this is what is lacking today for full control and improvement of the efficiency of Ukrainian enterprises;
- replacing traditional server technologies with cloud ones also makes solutions and maintenance of management systems cheaper;
- for integrators and vendors, new trends also mean the creation and development of new niche segments and corresponding solutions. As an example, the solution of Infokom [9] in the field of unmanned control. A new segment is developing that expects significant growth – data analytics;
- industrial digitization is taking place due to the mass introduction of smart devices, in turn, the development of data analytics increases the total volume of the market for automated process control systems (ACS TP), which has recently been complaining about stagnation and a drop in volumes;
- it is necessary to accelerate the development of participants in the ACS TP market, especially now, during the war, and in the post-war period [10];
- in the post-pandemic period and during the war, the principle of functioning of the education system changes and its reform continues: just as businesses look to IT as a role model in the field of agile methods (a software development methodology based on iterative development), so too our universities and secondary schools and providers of educational services understand that it is necessary to refocus on online and interactive learning.

The Ukrainian Cluster Alliance (UCA) [11] is a multi-industry nationwide union of enterprises, business associations, clusters and cluster organizations of Ukraine, which strive to increase their competitiveness by implementing the principles of cluster cooperation, industrial, digital and green innovations, automation and effective interaction with the state UKA is the leading and largest formal association of the cluster movement of economic clusters of Ukraine – currently the Alliance includes 48 clusters and cluster-type associations. UKA was founded on March 24, 2022 on the basis of the Clusters 4 Ukraine initiative, which emerged from the cluster committee of the Industrial and Hi-Tech Sector Platform Industry 4 Ukraine. The main driving force of the Ukrainian cluster movement in various formats is the Association of Industrial Automation Enterprises of Ukraine (APPAU).

The management structure of the Industry 4 Ukraine platform includes 4 committees – smart specialization and innovation, digitalization of SMEs,

sustainable industry (green economy) and cluster development. In the period 2020–2021, APPAU is closely coordinating efforts to develop clusters with the main donor in this field in Ukraine – the German federal company Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), which actively contributed to the unification and strengthening of the capacity of most clusters in Ukraine during 2021 year.

With the beginning of the full-scale war of the Russian Federation against Ukraine, the cluster committee called on the clusters to unite and mobilize in order to strengthen the economic front and help the Armed Forces of Ukraine. The initial initiative Clusters 4 Ukraine in March 2022 receives active support from a number of clusters and cluster organizations of Ukraine. Except to the IAM, these are the Ukrainian Association of Furniture Makers, the Ukrainian Automobile Cluster, the Khmelnytskyi and Lviv Sewing Clusters, the agro-tourism cluster "Dniester 1362" and the Agrofood cluster initiative from Poltava Oblast, and many others. Hundreds of enterprises from the above-mentioned clusters rallied in the Ukrainian Cluster Alliance in wartime conditions.

In September 2022, the Coordination Headquarters of the UKA completed the development of the Alliance Road map for 2022-23. This is the main strategic document that sets the goals and strategy for the development of the UKA until the end of 2023. The document is aimed at the key stakeholders of the UKA: heads of Alliance clusters, board members and participants, government officials organizations, Ukrainian and international partners.

The document is developed in a classical structure - from the analysis of the current state, through the setting of goals, strategic options for achievement, plan and budget.

The road map shows movement in time dimension along 6 key directions. The main directions of action for 2022-23:

1. Growth – extensive growth changes in March 2023 to intensive (selection of the most mature clusters, with a focus on management quality).

2. Institutionalization – from improving one's own self-organization to bringing the 2027 program to the state level.

3. Capability growth is a key strategy of the UKA in the context of the still insufficient maturity of most clusters and the ongoing war.

4. Intercluster cooperation – the plan provides for several projects at the beginning of 2023 and beyond – the deployment of a larger number.

5. Internationalization – clusters should move from projects for clusters to real growth in the export performance of their members.

6. Innovative development. This direction is controversial in the current state of UKA clusters (weak capabilities), but very desirable and targeted.

Let's take agriculture as an example. In the world, the demand for robotics and automation of agricultural machinery is growing at an accelerated pace. This happened due to the shortage of skilled workers in the field of agriculture, the growth of areas of uncultivable land. Integrated software allows you to monitor the performance of various types of work in the field.

In agricultural work today, drones are used to monitor the condition of crops and spray them, unmanned tractors and platforms for ground work in the field.

Today, the following types of unmanned agricultural machinery are used: unmanned tractors, platforms for tillage operations, robots for sowing, fertilizing and caring for plants, spraying robots, terminals for autonomy, etc.

Many countries in Europe, Asia and Oceania are already investing in the development of unmanned automated systems for the agricultural complex. The possibilities of Ukraine in the creation of electronic equipment and software for the creation of unmanned vehicles are great thanks to the potential of higher educational institutions and the motivation of Ukrainian students.

In the future, technological innovations will make a revolution in production, increase its efficiency and productivity many times. Prices for transportation and communication will fall, global supply channels will become more efficient due to advanced logistics, the cost of trade will decrease, which will create new markets and spur economic growth.

Society is permeated with digital technologies, the very dynamics of information transmission has changed – this also feeds dissatisfaction. Today, more than 30% of the world's population uses social networks and media to communicate, learn and disseminate information. Ideally, this should strengthen intercultural ties and cooperation. But, unfortunately, freedom of information also leads to the growth of unsubstantiated expectations, misunderstanding of success criteria for groups and individuals, and the spread of extremist ideas and ideologies.

In Ukraine, the national project Building digital transformation in agri-food [12] was created, the purpose of which is to create a roadmap for digital transformation of selected sub-segments of the food and processing industry. The organizers of the project are the Association of Industrial Automation Enterprises of Ukraine, which is the founder of the "Industry 4.0" movement, and the "AgTech Ukraine" association.

The main technological partners are the departments of industrial automation and control systems from the National University of Food Technologies (NUHT) and the Odessa National Academy of Food Technologies (ONAHT).

Conclusion.

Full participation in Industry 4.0 in wartime for Ukraine remains problematic or at least a very distant prospect due to limited energy consumption.

Ukrainian economy has an outdated manufacturing industry, with most of the businesses destroyed by Russia's wartime terrorist attacks. Therefore, the state needs to create a strong internal and external demand for the introduction of the latest technologies in all sectors of the economy. Therefore, the creation of an innovative economy from zero requires both the financial resources of the state and the funds of foreign investors.

And first of all, we will have to restore the entire infrastructure of our state to ensure the normal functioning of the economic, social, ecological and other spheres of life of society, its reproduction and development.

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7. DEVELOPMENT OF RECOMMENDATIONS FOR THE INTRODUCTION OF INNOVATIVE INTERNET TECHNOLOGIES IN MARKETING ACTIVITIES (ON THE EXAMPLE OF MEDIA WEST LLC)

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Introduction. Currently, the main task of marketing is not only to manage demand but also to find the optimal ratio between the needs of consumers and the capabilities of the enterprise. With the help of the Internet, additional ways to solve this problem have appeared. The Internet offers additional opportunities to effectively communicate with customers and research the level of demand. In addition, because of the Internet, it becomes possible to promptly change plans for the marketing activities of the enterprise based on the economic environment in the country. The Internet is an indispensable source of finding the most relevant marketing information. However, the main benefit of using the Internet is significant savings on overhead costs for advertising goods and services while significantly reducing the level of risk of capital investments, ensuring the necessary level of efficiency.

Literature review. Features of the use of Internet technologies in marketing activities have been addressed by many theorists and practitioners. I.V. Boychuk [1] clarified the categorical base and determined the composition of the main elements of Internet marketing, systematizing modern technologies and tools of Internet marketing. I.A. Kinash [2] investigated the theoretical, methodological, and practical problems of transformational processes at the regional level. Stal T.V. and Dovhal O.A. [3] analyzed the psychological aspects of the merchant's behavior in e-commerce, studied the main features of the electronic environment of the Internet, the behavior of its users, and proposed a model of the sequence of actions of the merchant, seeking to gain the trust of website visitors and turn them

into customers. N.V. Kuzminchuk [4] highlighted the main issues revealing the essence of marketing as a philosophy of entrepreneurial activity under the conditions of market relations and competition, considering marketing approaches, methods, algorithms, and tools used by enterprises to meet consumer needs and achieve their own goals.

However, despite a large number of academic research papers, and significant achievements in the theory and practice of marketing activity management, there are some issues that remain a constant object of discussion. These include the theoretical and methodologically applied frameworks of the introduction of innovative Internet technologies in marketing activities.

Results. The global e-commerce market is not stagnant and is expanding every year. This is the reason for the deeper penetration of the Internet in various regions of the world and the growth of online sales in existing markets. The Ukrainian e-commerce market has a high potential for development. Reorientation to foreign online stores, such as Chinese, is becoming more and more popular. However, it is necessary to recognize that even with the economic slowdown in general, including in relation to e-commerce, certain segments of goods in e-commerce, such as apparel, products for children, and a number of others are demonstrating dynamic growth. This makes e-commerce one of the most prospective areas of retail development. The online store is a key component of the company that sells its products online. E-stores combine elements of direct marketing and traditional commerce. The main differences between an online store and a traditional one are interactivity, a large amount of information and product range, and a personalized approach to each customer.

The biggest disadvantage of electronic stores is that it is not possible to touch the product and inspect it visually. However, this shortcoming is successfully offset by the abundance of information that a merchant in a traditional store would not be able to provide. The main functions of the electronic store include providing the most comprehensive information about the featured goods and services, receiving and processing orders, personalizing visitors, making payments (subject to connection to the payment system), and collecting and analyzing statistical information. The main criteria for evaluating an online store are the following: product range, product prices, comprehensive information about goods and services, customer service support, variety of payment methods, on-time delivery, and navigation. All of them are important for the customer to make a purchase decision in the e-store. Other customers do not make a purchase due to insufficient information about goods or services and the poor level of service.

Modern Internet marketing is one of the most dynamically progressing areas of trade promotion. A huge target audience and the simplicity of the interface

contribute to the success of business on the web. Internet marketing primarily provides the consumer with the opportunity to obtain information about products. Any potential consumer can, using the Internet, get information about the product, as well as buy it. The use of Internet marketing methods is aimed at saving costs (on salaries of sales department employees and advertising), as well as expanding the activities of companies (transition from the local market to the national and international markets). At the same time, both large and small companies have more balanced chances in the competition for the market. Unlike traditional advertising media (press, radio, and television), entering the market via the Internet is not too expensive. An important consideration is that as opposed to traditional marketing methods of promotion, Internet marketing provides a clear statistical representation of the effectiveness of a marketing campaign.

For any online store, it is extremely important to achieve high traffic, to ensure that as many users as possible would buy products, read advertisements, and follow links to other pages. This can be achieved by using innovative Internet marketing tools. One of the components of Internet marketing is the marketing communication policy, aimed specifically at informing, persuading, or reminding consumers about the goods or services of the online store.

Media West LLC is a provider of information technology techniques and solutions for the personal development of clients and their businesses. The main type of activity is retail trade carried out by companies via the Internet. Media West LLC has direct supply contracts with a number of the world's leading hardware manufacturers (Samsung, LG, Corsair, Benq, NVIDIA, Lenovo, HP, Huawei, Dell, Pioneer, CoolerMaster, KingMax, Beholder, etc.). Based on these contracts, the company sells and delivers components, computers and peripheral equipment, mobile phones, and other technical equipment.

The main means of sales of Media West LLC products is its own online store. In order to determine the customers' perception of the quality of the online store, an online survey of customers was conducted. This survey consisted of several questions, the answer to which would allow understanding of which problems are the most relevant for the online store: .1 How do you evaluate the product range of the online store? 2.How do you rate the usability of the online store? 3.How do you rate the design of the online store? 4. How do you rate the speed of order processing? Users had the opportunity to rate each of the proposed questions on a 5-point scale. As a result, responses were received from 794 respondents. The results of the survey in percentage ratio representation are featured in Figure 1.

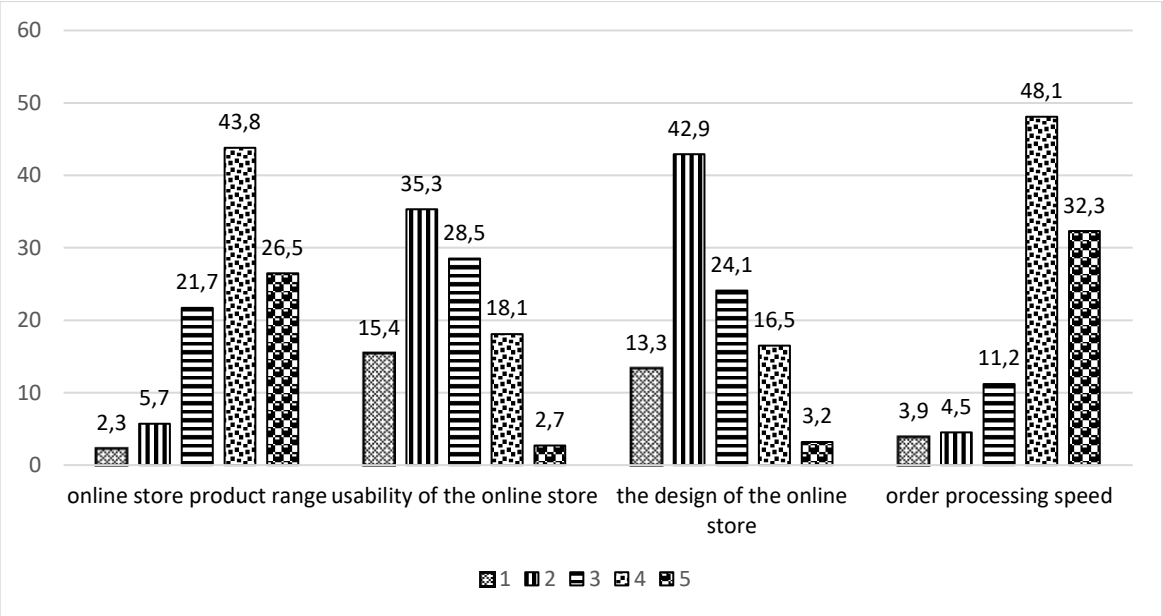

Figure 1. Results of a customer survey of the Media West LLC online store
Source: created by the authors based on data from [6]

The received answers indicate a rather low quality of the graphic and functional aspects of the current online store of Media West LLC. This very problem negatively affects the overall process of using the online store by customers and may also be the reason for losing potential customers for whom these parameters are important. The positive aspects that the customers of the online store are satisfied with can also be observed in the responses received. This applies to the overall product range of the store, as well as the speed and quality of processing orders.

The analysis of the marketing activity of Media West LLC makes it possible to assert that the level of marketing activity at the enterprise is quite low. The company uses common methods for advertising products and promoting its online store, e.g. brochure advertising and radio advertising. These methods help to achieve a certain result, but their effectiveness is constantly decreasing with the development of innovative methods of promotion, which have become possible due to the significant development of the Internet and Internet marketing in recent years.

With the development of the Internet, a variety of additional methods of advertising have emerged that indeed have a high level of effectiveness. They are all available thanks to Internet marketing. Internet marketing is the practice of using all aspects of traditional marketing on the Internet, affecting the main elements of the marketing mix: price, product, place of sale, and promotion. It is

also worth paying more attention to the download speed, working with payment systems, delivery terms, and customer support before, during and after the sale. There are the following key tools of marketing communication policy that make up the Internet marketing: media advertising, contextual advertising, search engine marketing (SEM), promotion in social networks (SMM - social media marketing) and direct marketing using e-mail, viral marketing, guerrilla marketing, and Internet branding.

These tools play a crucial role in the implementation of Internet marketing nowadays. Their proper implementation and use can significantly improve business operations. Internet marketing is an integral part of e-commerce. It can include components such as Internet integration, information management, PR, customer service, and sales. E-commerce and Internet marketing have become popular with the expansion of Internet access and are indispensable components of any typical marketing campaign. The main advantages of Internet marketing are considered to be the interactivity, the ability to accurately identify the target audience, and the capability of post-click analysis, leading to the maximum increase of such indicators as website conversion rate and ROI (Return on Investments) of Internet advertising.

To improve the state of marketing activities of Media West LLC, and, as a result, the development of the entire company, it would be appropriate to implement a new measure that, using the latest Internet marketing technologies, would elevate the company to a qualitatively new level.

In order to develop the most effective and comprehensive measure, it would be advisable to research and analyze those areas that are directly related to it. Thus, it is necessary to characterize the e-commerce market of Ukraine to determine the main requirements for the proper development of an online store, investigate the peculiarities of online marketing in Ukraine and determine its most effective means. It is also possible to investigate innovative Internet technologies that have significant potential in the marketing activities of the enterprise. Figure 2 depicts the process of implementation of a comprehensive measure.

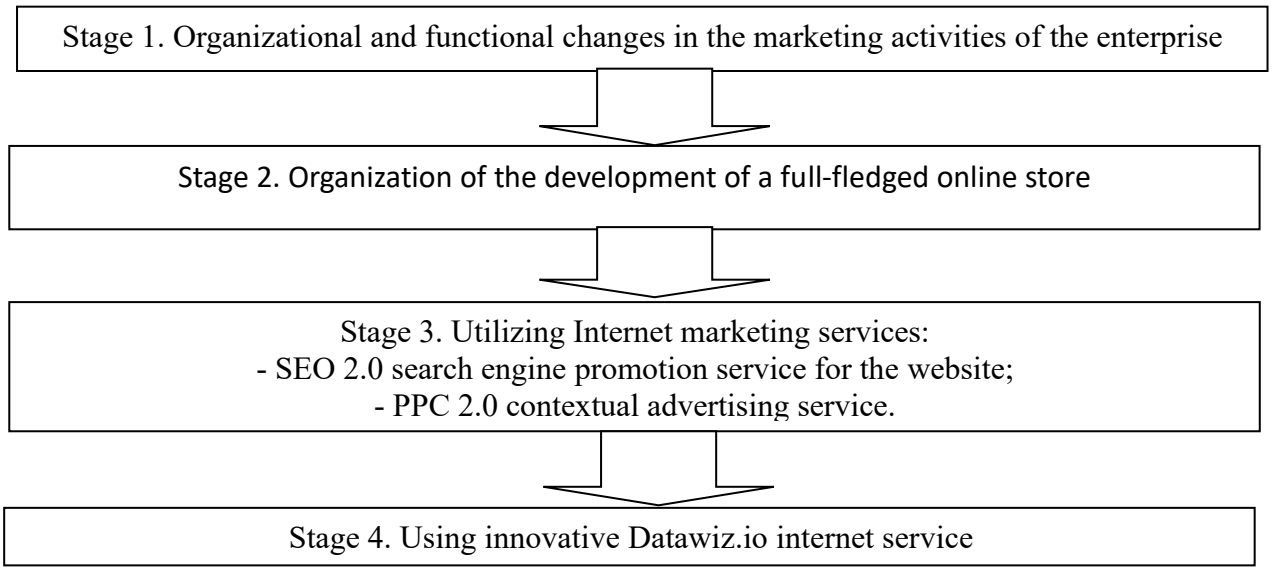

Figure 2. The sequence of the process implementation stages of the comprehensive measure

Source: created by the authors based on data from [5-6]

The implementation of the proposed measure will enable the company to significantly improve the level and quality of marketing activities and, through the use of Internet marketing, bring the organization's online store to the all-Ukrainian level, which will significantly enhance the performance of Media West LLC.

It is necessary to describe in more detail each of the proposed steps of this comprehensive measure and explain their main motives.

1) Organizational and functional changes in the marketing activities of the enterprise.

Currently, there is only one person responsible for marketing activities at Media West LLC. Media West LLC mostly sells its products in the city of Lviv and the Lviv region, while expensive and inefficient methods are used for advertising goods and promoting the online store. Since the company wants to bring its online store to the all-Ukrainian level, it needs to engage a person who is experienced and knowledgeable in the measures of the relevant scale. In addition, the chief marketing officer must be familiar with the main features of Internet marketing and be able to utilize them correctly.

One of their tasks will be to cooperate and control the implementation of the next stages of the measure, namely the custom development of a modern online store and its promotion online, which also requires the ability to implement technical solutions provided by the contractors for the full implementation of the planned measure. It is advisable to order these services for Media West LLC from specialists in the relevant fields in order to maximize the quality of their implementation.

2) Organization of the development of an online store using modern technologies in this direction.

Table 2

A list and description of the main requirements for an online store

List of the main requirements	Description
Own domain	Ability to configure the display of your online store under your own domain name.
Responsive design	Responsive design allows users to work with the store equally comfortably on all devices, regardless of their size, from mobile phones with a diagonal of 3" to large desktop monitors with a diagonal of 30".
Standard features	All the features a modern online store needs to manage personal settings, design, products, orders, and users without any restrictions.
Marketing tools	Capability to create sets of products, wishlists and comparisons, manage banners and set up automatic e-mail messages.
Import and export of goods	Import and export of goods provide the ability to easily add a large number of products using a CSV or Excel file, simultaneously updating the prices for the entire range of products.
Discounts	Enables the creation of individual users or user groups for discounts on products, brands, and categories; allows you to make gift certificates and cumulative discounts as a percentage or a fixed amount.
SEO tools	Allow flexible configuration of basic SEO elements: customize templates for displaying meta-title, descriptions & keywords by many parameters for all products, brands, and specific categories.
Yandex.Market, Price.ua	This feature allows easy export of all product items in YML format for further work with different price aggregators, such as Yandex, Price.ua, and others.
User management	This functionality allows the creation of user roles and the designation of appropriate access rights to the store's system.
Facebook integration	The possibility of opening a full-fledged online store on Facebook and product management from one administrative control point.

Source: grouped by the authors based on [2-4]

According to the conducted analysis of the state of the online store, it can be unequivocally stated that the existing website of Media West LLC does not correspond to the current market standards. It is outdated both functionally and graphically, which negatively affects the use of the store's website by customers.
In order to solve this problem, it is advisable to engage a company that develops web projects into the development of a new full-fledged online store with hosting, automatic updates, and unlimited quality assurance with the possibility of customizing the individual interface, and a large number of additional functions and services. The list and description of the requirements for the online store, which must be taken into account to ensure its effective operation, are indicated in Table 2.

In our opinion, it is appropriate to use cloud technologies to host and maintain an online store, which have significant advantages for small and medium-sized businesses, namely:

1. Cost savings – no need to spend on hosting and administration - everything is included in the price of the service.
2. Automatic system updates - store technologies will be updated completely independently.
3. High loading speed - the store will work as quickly as possible without losing impatient customers.
4. Impossibility of data loss - the system makes regular copies for all stores, which means that there is no risk of data loss.
5. Full control - access to HTML / CSS files allows you to make the desired changes to the appearance of the store and manage its data. After the implementation of this stage, Media West LLC will have a competitive online store, which will be able to attract customers not only with its functionality but also with its unique and modern design.

3) Using Internet marketing measures to promote and advertise the online store.

Developing a new online store is not enough to achieve the set goals. The stage of promotion and advertising of the store in the network is very important. Nowadays, SEO (Search Engine Optimization) and contextual advertising are the most effective for small and medium-sized businesses specializing in e-commerce. This stage is key in the context of a comprehensive measure. The future success and popularity of the online store depend on its high-quality and proper implementation. Therefore, for its implementation, it would be advisable to choose one of the leading companies specializing in Internet marketing in Ukraine. This service company must have a positive reputation in Internet marketing and

appropriate experience in promoting websites, contextual advertising, web analytics, and consulting. Within the framework of the implementation of this stage, it is advisable to order the following services: promotion of the website in SEO 2.0 search engines and PPC 2.0 contextual advertising.

Using these innovative Internet marketing tools has the following key advantages: SEO and PPC are the most cost-effective Internet marketing tools. From search engines, the website receives an already "warm" target audience. A search engine user will not search for something they are not interested in. With the appropriate promotion methods, the obtained result is preserved for a long period of time. PPC allows you to quickly attract the target audience to an Internet project. This allows you to quickly respond to promotions and seasonal business offers. With the help of these methods, the company will significantly increase website traffic and, accordingly, reach the client audience, which will lead to an increase in net income from the sale of products.

In order to improve the efficiency of the management of the marketing activities of the enterprise, it is suggested to use an innovative Internet service Datawiz.io – an online resource that includes all the main aspects of the marketing activities of the enterprise. With the help of this unique innovative Internet service, any enterprise engaged in retail can significantly improve the efficiency of its marketing activities using fewer labor and financial resources.

It allows you to forecast sales, adjust prices, optimize the product range and carry out a number of other important aspects of the company's marketing activities. The capabilities of this service are indicated in the table. 3.

This type of analytics can operate on thousands of units of products at the same time and is able to determine how much the price can be raised while maintaining the same level of demand. The resource's loyalty program offers unique services that customers can take advantage of, namely clustering and pairwise analysis. Clustering is a method of grouping customers by behavioral data – purchases, bank transactions, and credit histories. Its purpose is to obtain new knowledge, something new that allows increasing profits. The result of the service is the distribution of customers into clusters. Customers with the same behavioral characteristics fall into the same cluster. The service determines the value characteristics for each cluster and the share of each cluster. In this way, the company can learn about its most valuable customers. The pairwise analysis is a data mining technique by which organizations can significantly improve cross-selling techniques and obtain an accurate recommendation system. The service shows pairs that are invisible when using the classic method.

Table 3

List of functionalities of the Datawiz.io internet service [4]

The main functionalities of the online system	Characteristics
Definition of types of consumer behavior and their changes.	Datawiz.io makes it possible (based on the data contained in the receipts) to determine a typical shopping basket, as well as to display indicators affecting the distribution of such baskets into clusters. The user receives information on the seasonality of products, key products, and paired items, which makes it possible to manage prices and balances to increase profits and avoid losses. Awareness of changes in the consumer basket occurs in real-time.
Quick response to customer needs and demand shifts.	The recommendation system is based on machine learning algorithms, associative rules, and the resource's own innovation - the product inheritance tree. The system performs an in-depth analysis of the shopping basket and can automatically build dynamic recommendation models in accordance with changes in customer behavior.
Pairwise analysis	Management of key goods and related goods will allow to: • find key products; • use key products to attract customers; • increase sales of high-margin related products. This is necessary to determine the most effective products for promotion, which bring the most profit. The service can determine exactly which products to promote and when. All shopping baskets are analyzed and clustered, and key products are filtered for each basket. Related products with a high margin can be determined according to the company's requests.
Solutions to the problem of cost and supply in the market.	A sales forecasting model was built for retail based on various factors affecting sales. They include weather, fuel costs, currency exchange rates, and geographic variables. Prediction accuracy is not lower than 78%. It is possible to make a forecast for a month, a week, and even a day. The prediction model is built for each product and product category, which gives a high degree of accuracy.
Dynamic price changes.	Increase in potential profit through product range management. The system analyzes all receipts and determines the content of average consumer baskets. The solution is to identify low-value products within baskets where demand is not sensitive to price changes. The system makes a prediction of the optimal price for each product.

Source: grouped by the authors based on [4]

Conclusion. With the development of the Internet, the potential of the company's marketing activities has reached a completely new level. With its help, a wide range of previously impossible tools and means of research and influence on the market has opened up, having a much higher level of efficiency compared to their former analogs. The totality of these activities nowadays is called Internet marketing. Modern Internet marketing is one of the most dynamically progressing areas of commerce. A huge target audience and the simplicity of the interface contribute to the success of businesses online. Internet marketing gives the consumer the opportunity to obtain the necessary information about any product and make a purchase immediately, if necessary. The use of innovative means of Internet marketing, first of all, pursues the purpose of saving money by reducing the costs of salaries of sales department employees and advertising. In addition, it is used to expand companies' operations, e.g. moving from a local market to a national or international market.

In order to solve the pressing problems of the marketing activities of the enterprise, it is proposed to implement measures to introduce innovative marketing technologies based on online advertising and an online store, as well as the reorganization of marketing management based on the use of an innovative Internet resource Datawiz.io at the Media West LLC.

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8. CHANGES OF LABOR VALUES IN UKRAINE UNDER THE INFLUENCE OF DIGITALIZATION AND FULL-SCALE ARMED AGGRESSION

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Introduction. The problem of values, their changes and dynamics are currently at the center of both public and scientific discourse. Under conditions of global modernization, digitalization, technological changes, climate changes, in the situation of the spread of COVID-19, and in Ukraine, in addition, under conditions of a full-scale war — this problem receives special significance and priority. Values — their content, quality — orient and motivate people to certain ways of behavior, they are a marker of people's regulation of life conditions. Values also create the basis for the formation of sustainable relationships built on the principles of justice, competence, responsibility, etc. Values are the key regulator of human behavior, activity and communication. Therefore, in the labor field of work, values are extremely important, and changes in labor values are a bright marker of changes occurring in the social and labor field.

Therefore, the diagnosis of the nature and orientation of the value priorities of the people, an adequate assessment of current tendencies and trends provides an opportunity to establish the quality of the value potential of the Ukrainian society as a whole, as well as of its various social groups. On this basis, it is possible to determine changes in the value priorities of citizens regarding the present and future prospects.

The development of digitalization, information and communication technologies (ICT) stimulates the enrichment of people with new technical devices. In Ukrainian society, the popularity and frequency of using smartphones, tablets and other devices is growing. This expands the possibilities of using the Internet from mobile devices anywhere. The process of digitalization of Ukrainian society and the state demonstrates powerful positive dynamics, especially in recent years, when the efforts of various social actors involved in the development of these processes in Ukraine were combined. This is evidenced by the results of international studies. Thus, in 2020, Ukraine entered the top twenty countries in the world in which, compared to the previous year, the largest increase in the number of Internet users took place. In the pre-war period, Ukraine was gradually catching up with developed European countries in terms of the total percentage of the country's population using the Internet. The rapid growth of the number of Internet users in the pre-war period made it possible to expand the potential possibilities of the digital transformation of Ukrainian society.

But on February 24, 2022, a full-scale war started in Ukraine, unleashed by the Russian Federation. In the context of the war in Ukraine and the need for further post-war reconstruction, the search for answers to a number of questions is relevant for the entire Ukrainian society, in particular - - how does the reality of martial law superimposed on the reality of the coronavirus affect social and labor practices, motivational guidelines, and the behavior of subjects of social and labor relations? What is the mutual influence of the atomization of the living space and the diffusion of forms of activity under conditions of martial law? How do the conditions of remote work affect the social life and activities of an economically active person [1, pp. 60-61]? Without an adequate answer to these questions, it is hardly possible to form an appropriate value-motivational foundation in the labor sphere, both in the context of the influence of modern technologies on the sphere of work, and in the context of the needs of the post-war reconstruction of Ukraine.

Therefore, a meaningful analysis of the dynamics of value changes in Ukrainian society, the identification of trends in changes in labor values under the influence of digital transformations and the devastating consequences of war are necessary. Current trends and tendencies of changes in labor values of the Ukrainian people must be taken into account when developing and implementing

state policy regarding the revival of the social and labor sphere and meeting the needs of the post-war recovery of the national economy.

Results.

The results of an expert survey on the quality of working life in the conditions of digital transformations conducted by Institute of Industrial Economics, National Academy of Sciences of Ukraine[1]. Changes in attitude in Ukrainian society to work and its importance. Attitudes to work and assessment of labor value in the minds of people create the foundation on which the quality of working life is based. In 2021, specialists of the Institute of Industrial Economics, National Academy of Sciences of Ukraine conducted an expert survey on problems and capabilities for providing high quality of working life under the conditions of digital transformations. The study allowed to reveal the peculiarities of the transition to the digital economy in Ukraine, problems and opportunities, prospects and obstacles for the social and labor sphere, the labor and employment market, etc [2].

The experts were asked: "*Is there a positive attitude to work in Ukrainian society*?" It turned out that according to most experts (53%), a positive attitude to work is indeed maintained, but a quarter of respondents (26.1%) disagreed with this, and for a fifth part of the respondents (20.9%) it was difficult to answer this question. The total indicators are 53% (positive attitude) against 47% (negative and uncertain). The reasons for the loss of positive attitude to work are varied, but they are closely related to the characteristic features of significance, motivation, prestige, attractiveness of work for modern workers. Experts' answers to the question: "How important for the people is the value of labor, quality of working life, prestige, motivation and satisfaction with labor?" reveal the reasons for the changes in people's attitude to work (Table 1).

Motivation for work (91.8%), quality of working life (90.9%), work satisfaction (88.1%) are the leading parameters, which, according to experts, determine the attitude of the person to work and influence his work behavior. According to 73.6% of experts, the prestige of work for person is not a key regulator of work behavior (because the indicator of indifferent assessment is quite high – 24.6%). However, all these parameters for the modern person change over time, and digital transformations, force majeure have an additional influence.

Table 1.

[1] The expert survey was conducted in August-October 2021 by specialists of Institute of Industrial Economics, National Academy of Sciences of Ukraine. 110 domestic experts were interviewed within the framework of the research theme "Formation of a new quality of working life under the influence of digital transformations" (state registration number 0121U111954).

Expert assessments of a person's attitude to work (basing on parameters: value of labor, prestige, satisfaction of work, quality of working life, motivation to work)[2], %

How important to a person are:	Very important and important (total)	And yes, and no (an uncertain attitude)	Not important, not important at all (total)
Motivation to work	91,8	7,3	0,9
Quality of working life	90,9	8,2	0,9
Satisfaction with work	88,1	10,9	0,9
The value of work	81,0	17,3	1,8
The prestige of work	73,6	24,6	1,8

When answering the question: "*What causes dissatisfaction with labor?*", The largest number of experts (64.5%) noted that this is due to the strengthening of attitudes in young people to achieve life success without work efforts; with dissatisfaction with labor (59.1%) because of the insecurity of labor rights; with a mismatch of quality of working life and human expectations and a sense of social injustice (57.3% of experts); with the irresponsible attitude of public authorities to the problems of the labor sphere and the preservation of labor potential (according to 54.5% of experts); with the lack of prestige of work among social values (37.3%); with the influence of digital transformations, which destroy traditional collective relations in the field of work and employment, replacing them with individualized relations (according to 13.6%).

Determination of factors affecting the level of job satisfaction under conditions of digitalization of the economy. Digital transformations have an ambiguous effect on the sphere of work and employment, on the working person. Job satisfaction is an important component of the quality of working life and the basis for ensuring labor productivity.

Experts were asked the question: "*Do the following factors increase the level of job satisfaction when implementing digital technologies in production and business processes?"* with a list of 6 variants of answers. As it turned out, the majority of experts evaluated the proposed list of advantages from the introduction of digital technologies with favorable answers “yes” and “rather yes”. The most significant positive factors of influence, according to experts, are the following:

1) reduction of time for obtaining information and its processing — 91.8%;

[2] Here and after data are given as a percentage of the total number of respondents.

2) reduction of the volume of routine operations in the labor structure — 85.5%;

3) increase in openness, transparency and decrease in the level of bureaucracy in the work of the organization — 84.5%;

4) increased opportunities for self-realization — 81.8%;

5) the opportunity to use the latest technologies in the work process and to be involved in digital innovations — 80.0%;

6) the ability to work remotely, but at the same time — as a team in an online format — 76.4%.

The results of an expert survey on the benefits of the implementation of digital technologies show that the work process using ICT brings significant satisfaction to employees. This happens as a result of reducing the routine of labor operations, reducing time for labor-intensive work and increasing opportunities for creativity. The increase in the level of satisfaction is based on the satisfaction of secondary needs of employees: self-realization, success, respect, professional recognition, involvement in innovations.

At the same time, the results of the expert study made it possible to determine the *factors that negatively affect job satisfaction under conditions of digitalization* and cause negative reactions among subjects of labor relations. Among the most influential factors that reduce job satisfaction, the respondents noted the following:

1) fear of not being able to cope with new technologies — 74.5%;

2) the threat of dismissal due to the replacement of human labor by artificial intelligence and robotics – 69.1%;

3) increase in labor intensity — 68.2%;

4) an increase in the employee's financial and time costs due to the need for constant training and mastering new skills — 61.8%;

5) reduction of time for communication with colleagues — 61.8%;

6) increase in competition – 54.5%;

7) increase in responsibility – 53.6%.

Thus, the results of the expert survey indicate the growing uncertainty of employees in the future of work, which is associated with the rapid development of technologies and the need to acquire new skills and competencies constantly.

So, the factors of decreasing job satisfaction are fears related to the uncertainty of the working future, difficulties in realizing a potential professional career. Factors of growth in job satisfaction are opportunities of digital technologies, which provide human capital with prospects for professional development.

The impact of ICT on the digital economy and future jobs in Ukraine: the results of a study conducted by specialists of Kyiv National Economic University named after Vadym Hetman. The results of this study [3, pp. 136-148] proved that the attitude of Ukrainian society towards the development of ICT is ambiguous, but optimistic expectations and a pragmatic-realistic perception prevail. The development of ICT, which is a basic feature and prerequisite for building a digital economy, is generally perceived positively. Optimists are 80.2% of respondents who expect positive consequences of digitization for the economy, society and for themselves. 72.8% of respondents are pragmatic. They believe that the development of ICT is a natural and inevitable process, and Ukraine has its own advantages, experience and potential for the use of ICT, which should be involved.

At the same time, a third (30.9%) of respondents agree with the statement that the development and use of ICT is associated with a large number of potential threats, risks, and problems that should be purposefully resolved today. 15.5% of respondents can be called skeptics of digitalization, because they believe that the development of ICT in Ukraine is 'out of time' - there are other, more important and priority problems that require appropriate efforts and solutions. This part of the respondents does not see the positive aspects of the introduction of ICT either for themselves or for the recovery of the Ukrainian economy.

The results of the study showed that ICT has a significant impact on the respondents as employees, increasing the demands on them and contributing to the growth of labor productivity. However, this influence is not exclusively positive, at the level of the employee it also has tangible negative consequences. The main among these negative consequences are the blurring of the boundaries of working hours, the violation of the “work - rest”" balance, and the increase in labor tension. More than half of the respondents estimate the maximum impact of ICT on employees, which is manifested in the following: “the possibility of a flexible work schedule” (57.0%); “emergence of new forms of employment” (56.8%); “formation of new digital skills” (55.8%). Accordingly, the following areas had the least influence: “job loss” (7.8%); “decrease in labor productivity” (7.9%); “increasing workload intensity” (26.0%).

At the same time, the calculation of the integrated average score of the impact of ICT allows us to conclude that, to a greater extent, the respondents feel the benefits of digitalization for themselves as employees (the average score of the impact is 2.35 on a 3-point scale), to a significantly lesser extent — risks and threats (average impact score – 1.99 on a 3-point scale). That is, according to the integral indicator, ICT development and its impact on work is assessed as a positive phenomenon [3, p.142].

The assessment of advantages, disadvantages and risks from the point of view of different social groups of respondents proved to be indicative. In all social groups, the average score for evaluating advantages is higher than negatives and risks. The academic community and the business sector gave a higher score for the assessment of advantages (2.42 and 2.34 points, respectively, on a 3-point rating scale). The academic community and the civil service (2.04 and 2.0 points, respectively) are aware of the negatives to a greater extent (compared to other social groups). Representatives of business and the academic community have the biggest gap in perception of positives and negatives (0.43 and 0.38 points, respectively). The prioritization of the impact of digitalization, based on the results of the study, clearly demonstrates the lack of homogeneity in assessments and perceptions, which can be explained by age, the presence / absence of other employment, professional interests and other factors.

Thus, respondents' perception of the consequences of digitalization for employees, depending on the status and field of employment, is quite different. However, nevertheless, it is possible to identify cross-cutting general trends regarding changes in labor values in the modern world.

The main trends and tendencies of changes in labor values in Ukraine under the influence of digitalization and during the war period. The results of the conducted multi-aspect analysis regarding the identification of value changes in the sphere of labor in Ukraine allow us to present general conclusions by such meaningful structural segments as:

1) key trends in changes in labor values associated with the impact of digitalization and the spread of modern ICT and digital technologies (Table 2);

2) the main trends of changes in labor values under the conditions of a full-scale war (Table 3).

The impact of digitization and the spread of modern ICT and digital technologies on changes in the field of labor values and corresponding trends deserve special consideration. A specific feature of these processes is that they are continuous for the entire period under consideration - both the pre-war period (starting from the first decade of the 2000s) and the war period. The significance of these trends and their impact on labor values and problems of ensuring decent work is constantly growing [2]. These trends were very clearly manifested during the COVID-19 pandemic, and will undoubtedly manifest themselves during the post-war reconstruction of Ukraine. The specified trends and tendencies are given in Table. 2.

Table 2.

Key trends and tendencies of changes in labor values related to the impact of digitalization and the spread of modern ICT and digital technologies

1. Digital technologies are transforming the content, nature and forms of work organization. The positive features of changes in the content of work in the digital economy are as follows: - the level of intellectualization of work increases; - the share of heavy, monotonous work and stereotyped operations decreases; - the database processing process is facilitated and accelerated; - opportunities for self-realization are expanding [4].
2. The nature of the organization of the activities of companies and organizations changes due to: - increasing openness, transparency and reducing the level of bureaucracy in the work of the organization; - increasing opportunities to use the latest technologies in the work process and to be involved in digital innovations in the company; - spread of remote employment.
3. One of the leading trends is the significant increase in the value of employees acquiring various digital and technological skills and qualifications. This, on the one hand, leads to the expansion of opportunities for professional activity, but at the same time creates a threat for employees who, for one reason or another, do not possess such skills. The consequence of this may be their loss of competitiveness in the labor market and the growth of "digital inequality".
4. New forms of labor organization are labor digital platforms, the formation of which is accompanied by high social and legal insecurity of workers, and therefore require the development and implementation of appropriate legal and institutional support. The spread of platform employment radically changes the system of social and labor relations arising in this segment [5]. This, accordingly, creates significant threats to the effectiveness of the existing traditional systems of ensuring social and legal protection of workers, which in these conditions require a significant update in accordance with the conditions of digitalization [6].
5. Positive manifestations of digital transformations in the labor sphere, which stimulate the formation of relevant values among the working population, are the following: - the emergence of new employment opportunities and new forms of employment (remote, platform, freelance, etc.); - the ability to work remotely with a flexible work schedule; - mastering new digital skills;

- increasing labor productivity; - opportunities for expanding professional ties and interaction with colleagues, etc.
6. At the same time, digital transformations create tangible threats and risks for employees, the main ones being the following: - the threat of job loss (due to non-compliance with the requirements of the digital world and increased competition); - expanding the range of professional duties; - increase in the intensity and volume of work load; - reduction of labor productivity in these conditions; - change in the structure of work, working time (first of all, a violation of the balance of working and free time); - a change in the working environment (in particular, in the conditions of remote employment, there is an atomization of the working space, direct personal relationships with colleagues are destroyed, work teams are eroded).

A full-scale war in Ukraine has significant destructive consequences for a person, society, country, and the social and labor sphere. It significantly influenced the character of a person's attitude to work, labor values — their content and hierarchy, and initiated certain trends in this area. These trends are shown in table. 3.

Table 3.

The main trends of changes in labor values under conditions of a full-scale war in Ukraine

1. In wartime, the value of work as a source of survival has undoubtedly increased, which is evident in the following: - the opportunity to maintain employment, to have a job and to receive stable labor income is highly valued; - people are ready to take on any work and part-time jobs in order to provide themselves and their families with the minimum means of survival; – working pensioners or pensioner relatives who receive a stable pension have acquired significant value for the family (although before the war, the income of this category within the family was not considered as the main income).
2. The impact of obstacles that limit the development of decent work and destabilize the social and labor sphere in Ukraine has significantly increased.
3. The risks in the labor sphere have increased radically, the main of which are the complete loss of work and a significant decrease in labor income - the level of wages. In these conditions, the value of remote work, which requires an employee, a laptop and the Internet, has increased significantly.

4. The situation becomes quite common when a person actually loses his job, while not formally losing his workplace and the status of an employed person. This situation is typical for people from the zone of active hostilities and/or in the occupied territories who could not perform their work, as well as those who were on forced vacations at their own expense.
5. Under conditions of the war, the motivation to perform socially significant work increased significantly — socially oriented work began to be valued very highly. The place and role of work in people's own lives has also undergone a certain reassessment. Many people have a desire to do something significant that will lead to victory, which determines the search for work according to this principle [7].
6. Under conditions of the war, gender specificity was manifested. In particular, the unavailability of social infrastructure - kindergartens and schools - due to the destruction or damage of buildings, increased the burden of care and education of children on parents, especially mothers. This becomes a significant obstacle both for fulfilling the duties at the existing job and for returning to the labor market and finding a new job or part-time jobs [7, p. 41].
7. Under conditions of the war, work became not only a material source of survival, but also an important source of psycho-emotional support - people note the desire to “immerse themselves in work”, “occupy their hands with work”, try to distract themselves from the war with work (even for free, for example, weaving camouflage nets for of the Armed Forces of Ukraine - just for self-reassurance) [7, p. 57].
8. Contradictory trends were revealed regarding volunteering. On the one hand, the value and involvement of volunteering as a whole has increased. People began to devote more time to this activity and get involved more systematically, certain volunteer initiatives are sometimes transformed into paid activities. However, a certain part of people, on the contrary, began to help less or join volunteer initiatives or stopped doing it altogether. Among the reasons for the decrease in volunteer activity: a decrease in time, energy and moral resources for volunteering. Some volunteers pointed to their own “burnout” - chronic fatigue; to the lack of financial resources and the need to return to work. But this tendency arose when the initial, most acute phase of the war had passed.
9. The value of stable electricity, heat, water and energy supply, stable Internet and mobile communication for the implementation of labor activities and life activities in general has increased significantly.

Conclusion.

1. The imbalance in the development of the social and labor sphere has significantly worsened and acquired new forms and manifestations under the influence of digitalization processes. In Ukraine, the first powerful wave of transformation of labor values began with the rapid development of information and communication technologies (since 2017); then these processes were radically accelerated by the impact of the COVID-19 pandemic and related quarantine restrictions. However, in general, these processes also took place in Ukraine within the framework and in accordance with the relevant global trends.

2. Digital technologies greatly facilitate the organization of the work process (remote work, flexible work schedule), and thus increase job satisfaction. In particular, they reduce the level of monotony, reduce labor intensity, facilitate and speed up information processing, etc. But at the same time, these technologies create significant risks, including in the field of labor values and social and labor relations. The key negative trend from the point of view of preserving the value of labor and labor values ss the atomization of the social and labor space, which erodes and makes traditional labor values redundant in a certain sense, in particular, labor solidarity, the ability of workers to take collective action to protect their labor rights and interests. This trend is most acutely manifested in the field of platform work.

3. Under conditions of the war, the value of work for Ukrainians increased radically, the availability of any paid work became of primary importance, because it becomes a condition for the physical survival of a person and his family. This trend will intensify under conditions of war - when production assets and infrastructure are destroyed, jobs are reduced, living conditions of the population deteriorate significantly, etc. This trend will remain relevant also in the post-war period.

4. The value of those types of work that can be performed remotely increases significantly - and in this situation, the significance of the experience gained during the COVID-19 pandemic is actualized.

5. Prerequisites are being created for the revival of collective labor values that had declined in the pre-war period - in the conditions of digital transformations and the impact of the COVID-19 pandemic. At the conceptual level, the revival of such values should be based, first of all, on the principles of people-centricity (and not economic-centricity).

6. When developing and implementing state policy regarding the revival of the social and labor sphere, the following should be taken into account:

a) the potential of value orientations, current trends and tendencies of changes in labor values of the Ukrainian people;

b) the needs of the post-war recovery of Ukraine through the formation of an appropriate positive value and motivational basis in the labour field, based on the principles of solidarity of the main subjects of social and labor relations, and on the shared vision of the future of Ukraine.

The formation of such a value-motivational basis is possible on the basis of moral elevation associated with the need to protect Ukraine from the aggressor. This has already revived solidarity in Ukrainian society, and in a certain sense - after the Victory - it will definitely contribute to the growth of solidarity in the labor sphere and the faster post-war recovery of the national economy.

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9. DIGITALIZATION OF PRESCHOOL EDUCATION IN UKRAINE

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Introduction. Education is perceived as a need for a person throughout the life. This approach forces the education system to change. Therefore, it is necessary to create the conditions of a modern and safe digital educational environment that would ensure high quality and accessibility of education of all types and levels. The education system in Ukraine should be configured in such a way as to prepare competent users of information technologies who have the necessary competencies in modern conditions. It is necessary to start the implementation of digital technologies from the early stages of education, from preschool age.

One of the priority areas of Ukraine's digital transformation is the creation of a modern and safe digital educational environment that ensures high quality and accessibility of education of all types and levels. Therefore, digitalization has become the main trend of educational policy. Modern digital technologies and the digital environment become a tool that corresponds to the qualitatively new content of the child's development and education, which increases the effectiveness of the organization of the educational process. The use of digital technologies in

education is one of the urgent innovative problems of our time. The COVID-19 pandemic practically showed the relevance of digitalization of education now and in the future.

Today, digital technologies are already used in educational institutions, they have become part of the educational process, which provides an opportunity to diversify and qualitatively update the educational and educational processes, increasing its effectiveness.

The relevance of the research topic is due to the fact that today the requirements for educational institutions regarding the quality of providing educational services, which are used by teachers of educational and communication technologies for the purpose of sustainable development and ensuring the competitiveness of educational institutions, have increased.

Literature review. In the approved basic component of preschool education (new edition), which is based on the main provisions of the Laws of Ukraine "On Education", "On Preschool Education", the educational direction "The child in the sensorial and cognitive space. Computer literacy" (variable component), which involves the formation of digital competence of a preschooler [1]. Also, a long period of observance of quarantine restrictions by the participants of the educational process activates educators regarding the use of online resources and mobile applications in their work and interaction with parents.

The results of scientific research, taking into account the features of digitization of human life processes, as well as the perception, understanding and assimilation of information by modern preschoolers, prove the need for changes in approaches to their education, development and upbringing. One of the ways of renewal is the integration of modern digital technologies into the educational environment of a preschool education institution.

The analysis of scientific literature (Gulevich O., Dotsenko S., Shynkaryova V., Nastas D., Vember V., Morze N., Moturnak E., Khrypun V. and others) shows that the problem of digitalization of preschool education has not been thoroughly investigated. Individual issues related to the practical principles of digitalization of preschool education are mentioned only in journalistic works, articles that describe the personal experience of teachers of the respective institutions. Therefore, these issues require further study.

Results. Modern education is a multi-level structure that is intensively developing. The field of education is dynamic, and therefore subject to constant changes. One of the relevant changes today is the digital transformation of education.

The definition of digital transformation is impossible without distinguishing the processes of digitalization, informatization, and computerization of education. Several elements are used to determine the relationship between these processes: the first is the process of computerization, it is covered by the process of informatization, and both processes are covered by the process of digitalization. This means that computerization, informatization, digitalization are three different processes, while each subsequent process covers the previous ones, representing a qualitative technological complication and simultaneously using the previous levels for the functioning.

The computer infrastructure is the first and necessary technology level. Computer technologies are primarily technical tools that provide the possibility of working with highly structured information. Information technologies were deployed only at the level of the computer base, but with the use of higher-level software and platform solutions. These technologies made it possible to work with loosely structured information, allowed to automate a number of processes, including management processes of an educational organization. Digital technologies make it possible to work with unstructured data of a much larger volume. Digital technologies are a "model of models" that allows you to automate decision-making within the framework of given algorithms on the basis of various, including non-obvious data, implementation monitoring and risk forecasting.

The term "digitalization of education" is considered from different perspectives. In a broad sense, digitalization is perceived as the process of forming competitive professionals in the digital world. From the point of view of individualization of learning, digitalization of education ensures flexibility and personalization of the educational process, which increases its effectiveness. From the point of view of teaching aids, digitization enables the transformation of analog resources into digital ones, which contributes to the expansion of the technological capabilities of pedagogical teaching aids. From the point of view of the organization of pedagogical communication, digitalization of education leads to the emergence of new digital educational communication, which affects the process and result of education. In the process of digitization, the structure of education and the organization of the educational process are fundamentally changing. Information and communication technologies are an initial condition for the development of digital pedagogy.

Therefore, the digital transformation (digitization) of education means the achievement of high educational indicators based on the use of digital technologies, artificial intelligence, virtual reality tools, as well as providing wide access to the Internet and creating a digital educational environment for personalized learning. Digitization, as an innovative practice in the field of

education, changes the "teacher-student" interaction to dialogic cooperation, transforms traditional learning into an interactive one.

The information format is based on the digital presentation of information. In contrast to the electronic format, the digital format represents information more accurately, ensuring its free circulation, placement, processing, and use in computer networks. Digital education is a complex, but organized system, the base of which is built on three elements: information resources, a control system, and telecommunications (Fig. 1).

Information resources include: hyper-collections (media, video, audio, bibliography, photos, graphics, animations), information arrays, educational portals, Internet sites. Telecommunications include network and mobile environments, mass media, television, telephony, telebridges, hosting, postal services. Management system: authorization of users, testing, content, ratings, personal and collective information space (site, blog, chat, forum, mail, database).

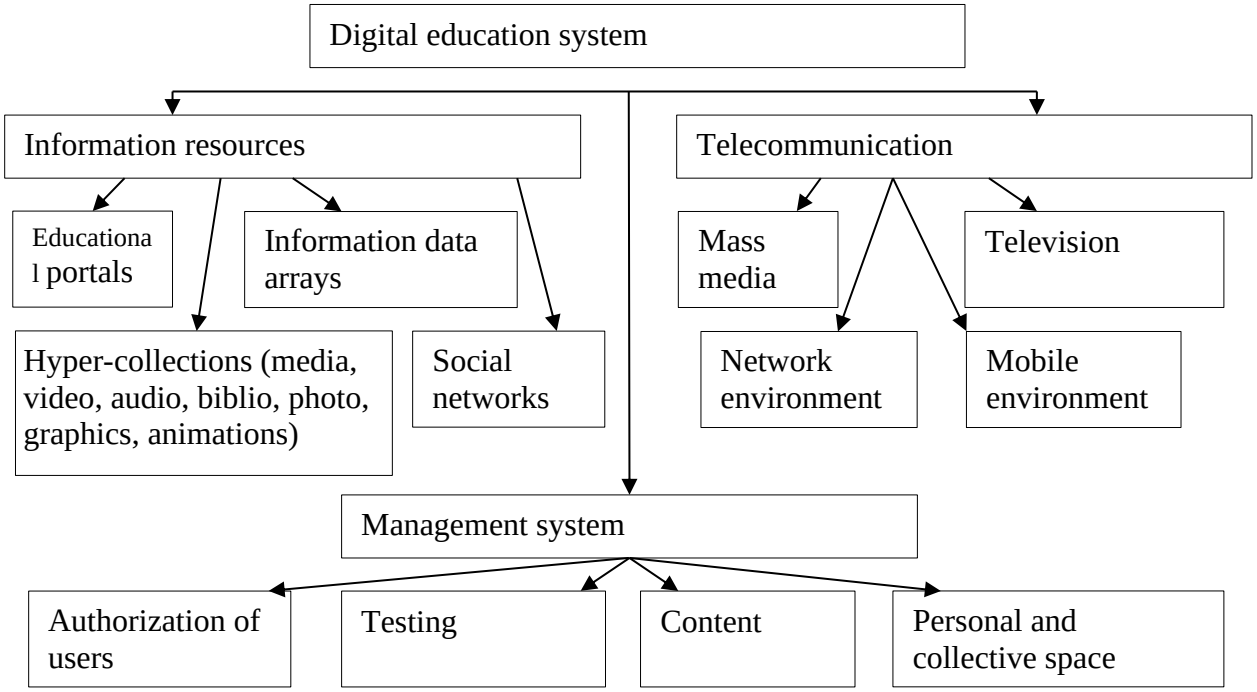

Figure 1. Digital education system

Source: Developed by the author based on Digitization of education: European format (2022)

Digital technologies in today's world are not only a tool, but also an environment that opens up new opportunities. Thus, the digitalization of education involves the use of mobile and Internet technologies, expanding the horizons of

knowledge, making them limitless. Productive use of digital technologies, inclusion in independent search, selection of information, participation in project activities form modern competencies.

The process of digitization of education, like any other spheres of society, involves the formation of a digital (information) culture, which allows you to competently use the opportunities that open up and integrate into the environment of the information society. Thus, it is possible to talk not about different approaches in informatization and digitization, but about a single end-to-end process of transformation of society, the basis of which is developing technologies, and the change of their generations determines the stages of the long-term development of society, the first was the informatization that is changing into digitization.

It is necessary to consider the digital transformation of education taking into account the characteristics of children in the digital world. Researchers note that for a modern child, one of the key factors of successful socialization is mastering digital reality as a means of activity and communication. A new term "digital socialization" has emerged, which undoubtedly affects the development of the leading types of activities of children who are becoming digital. The influence of digitization in the development of the leading types of child activities is presented in the table. 1.

Table 1

Digitization of leading activities

Age	Leading type of activity taking into account digitalization
Early age	Manipulation of digital devices
Preschool age	Computer games, the skill of extracting game content from the Internet is formed
Junior high school age	A digital presentation of information is being formed, a virtuosic mastering of a mobile phone is taking place, knowledge of digital technologies in educational activities
Adolescence	Digitization of communication: the transition from offline to online (to Internet communication), interaction in social networks
Senior school age	Professionalization using the Internet and social networks

Source: Developed by the author based on Digitization of education: prospects, advantages and disadvantages. Digitization of society and business: challenges and opportunities for young people (2021)

Researchers note that children spend a lot of time on digital devices: playing computer games, communicating on social networks, preparing for classes.

However, the intelligent use of digital technologies in educational activities makes it possible to make the lesson rich and interesting, provides opportunities for a variety of information presentation, and forms mental processes and motivation. Digital transformation makes it possible to activate the child in the lesson, strengthen the assimilation of the material, and also diversify the content of the student's game.

The process of digitalization irreversibly changes the life of society, providing resources for acquiring knowledge that were previously unavailable. This is not just a mechanism, it is a completely new reality that provides incredible opportunities: permanent education; own educational schedule; study at a convenient time in any part of the planet.

Another important option, which enables the process of digitalization of the education sphere, is the digitization of libraries, which allows further application in the distance educational process with the help of certain software, collects a course of classes through the analysis of arrays of digital data already in its database. The educational process, in which information technologies, algorithms and mechanisms are used, presupposes their high-quality use. Blended and distance learning makes it possible to create conditions for receiving effective education for every person, regardless of their place of residence and available skills, taking into account their abilities and requirements for this process.

Therefore, digital transformation is perceived as a fundamental rethinking of educational activity taking into account the unique capabilities of digital technologies, i.e. a radical change of its functional structure and the role of each of its elements. The main element is the subject of education, which must rethink and transform activities, relationships and communication regarding this activity, its values and norms, create new, adequate institutions for digital transformation, and not just master digital technologies.

This understanding of the digital transformation of education has two important implications. Firstly, it helps to give the process of digital transformation a transformative status and thereby connect it with the specifics of a specific thematic activity (education). This means that the description of only universal principles and elements of transformation is unproductive, it is necessary to simultaneously construct a change in the principle model of thematic activity. In this case, the model of digital transformation becomes a supermodel, in which a new model of thematic activity (education) is necessarily embedded. Secondly, the interpretation of the essence of digital transformation leads to the opposition of the process of digital transformation to the processes of optimization, efficiency improvement, improvements and changes without radical transformations.

It also leads to overcoming its narrow understanding, only as the introduction of digital technologies and means, for example, that one of the criteria

for the quality of transformation is a substantial change in the object of the thematic activity. If it is impossible to single out fundamental changes of the object, then regardless of the number of digital technologies used, introduced positions, etc., the digital transformation did not take place.

The modern trend of the education system in the world is personalization and digitalization, which requires a person to develop constantly, implement innovations, and improve their competencies. Digitization affects all sectors of the economy, and the education system is no exception, especially since society is making more and more demands on this sphere, including the introduction of digital technologies into the educational process. Undoubtedly, the formation and development of a person's personality, success in society, at work, in the family are determined by many factors, but one of the most important components in the formation of a personality is precisely those attitudes that are laid down from early childhood. A significant role in the formation of these prerequisites and factors is played by preschool education as an integral stage of a person's educational development. It is generally recognized that preschool age is the age of accelerated physical and mental development of a child, the formation of skills that determine physical, intellectual, and mental development in the future. Recently, preschool education has also become an important direction as the key to the formation of a full-fledged active member of civil society, a qualified worker, a full-fledged citizen of one's country, taking into account the promising practices used in most foreign countries where state programs for early childhood development are implemented.

The development of modern society and the emergence of new needs of society leads to the fact that many spheres of social life, and primarily education, are moving to a digital format. At the same time, the digital transformation affected not only schools and higher education. Modern preschool education is also undergoing a series of changes, due to the introduction of innovations and the creation of a new preschool preparatory degree.

Modern preschool education is developing in the context of the challenges of the times. The rapid emergence of digital technologies mediates the need for changes in the methods of designing and implementing pedagogical activities in preschool education. In education, digitization is aimed at ensuring the continuity of the learning process (life-long-learning), as well as its individualization based on advanced learning technologies (advanced learning technologies) [4].

Digitization of preschool education is one of the urgent innovative problems of our time. Preschool education does not remain aloof from the trends of modern digital society. The use of digital technologies in preschool educational institutions is a means of transforming the "subject-developmental environment". The scientifically based task of digitalization of preschool education is the expansion of

opportunities to learn about the surrounding reality and the development of the child's abilities. Therefore, digitalization of preschool educational institutions pursues two main goals. The first is ensuring the quality of education with the help of information technologies, the second is the education of an intellectual, versatile, creative personality and the preparation of a preschooler for today's digital realities [5].

A peculiarity of the perception of information by preschool children is visual figurative thinking. In this, the main principle in organizing the activities of children of this age is the principle of visibility. The use of a variety of illustrative material allows teachers of preschool education to achieve their goals faster with organized joint activities with children [6]. In this way, information and communication technologies make it possible to precisely focus attention on individual pedagogical tasks. It can be said that modern information and communication technologies and digital technologies are becoming an integral part of the holistic educational process, allowing children to get acquainted with real objects and phenomena of the surrounding world in a playful and visual form in color, movement, with sound, with elements of animation. Taking into account the visual-similar thinking of preschool children, to promote the development of their attention, memory, the disclosure of abilities, the activation of mental activity, the realization of individual educational trajectories. Digital tools and services provide an opportunity to create dynamic images, and to fill static images with interactive elements (add video labels, audio fragments, insert hints, links to additional images or external resources - sites). They promote the implementation of an interactive approach in education, make the process of learning of preschool children exciting, spectacular, and motivated.

The digital transformation of the preschool educational environment is considered from the standpoint of technologies, the content of activities, information resources, and communicative educational models, as well as the structure of digital literacy of the preschool teacher (Table 1.2).

The organization of a modern digital environment in a preschool education institution contributes to the implementation of key principles, goals and tasks of the Basic component of preschool education (state standard of preschool education) [1]. Interactive educational games provide an opportunity to organize the simultaneous education of children with different abilities and opportunities, to build educational activities based on individual characteristics. In the process of solving virtual educational tasks, children develop creative potential, initiative, curiosity, perseverance, diligence, responsibility, which are the target orientations of preschool education. Digital technologies are an important link in the organization of cooperation between the preschool education institution and the

family, including in the organization of distance learning, the creation of social networks and communities.

Table 2

Digital transformation of preschool education

Comparison parameters	Preschool education of the 20th century.	Preschool education of the 21st century.
The goal of preschool education	Preparation for school, development of mathematical and social knowledge, ideas about the surrounding world, language development, etc.	Formation of digital and information culture, development of skills to apply and structure information in the process of cognitive activity. Development of independence, initiative, elements of critical thinking, creativity, ability to engage in social communications, skills to solve life tasks
The basic process	Gaming and educational activities	Educational event, project and research activity
The content of the activity	Defined in the program	Content integration in variable educational solutions taking into account the requirements of the Basic component of preschool education
Communication models	Educational communication and interpersonal interaction	Interpersonal and network educational communication
Organizational conditions (technologies)	Methods of training, development and upbringing	Interactive technologies, multimedia technologies, steam technologies, and so on.

Source: Developed by the authors based on Early development of a child is everyone's right (2021)

The use of information and communication technologies in preschool education transforms a child from a passive listener and observer to an active, active subject. Even the most passive participants in the educational process join the work with curiosity.

The development of a digital preschool educational environment, the creation of a bank of digital educational tools, the computerization of teachers' workplaces, the improvement of the qualifications and digital literacy of teachers

in the form of distance courses, conferences, webinars, and monitoring of the educational process are becoming the main directions of the digitalization of preschool educational institutions.

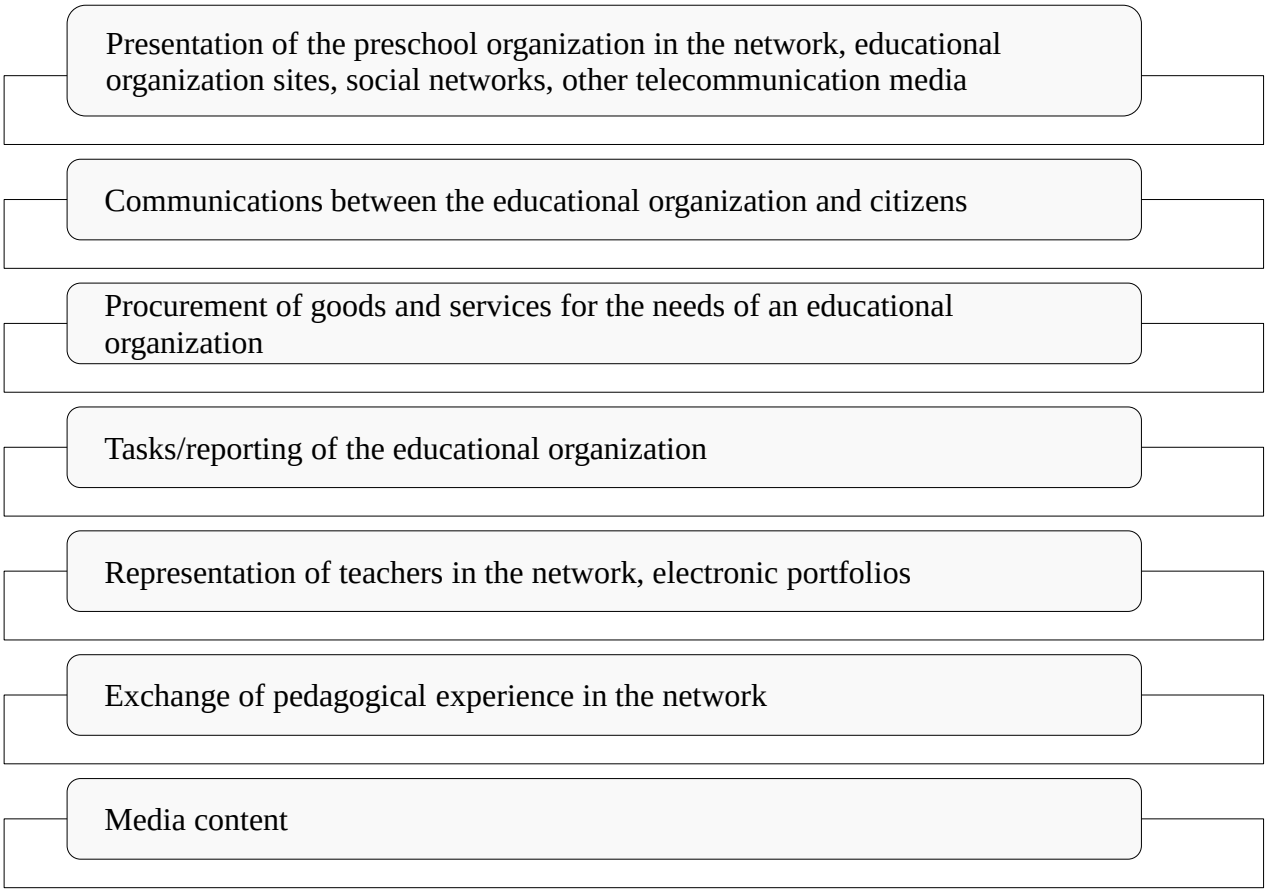

Figure 2. Areas of use of information and communication technologies in the system of preschool education

Source: Developed by the authors based on The use of ICT for the formation of health-saving competence of older preschoolers (2021)

Today, education is perceived as a need that is necessary for a person throughout the life. This approach forces us to change the system in general, and primarily preschool education. The state is faced with the task of developing an educational system capable of integrating a child into the modern, changing high-tech world, taking into account the integrated approach of "science - technology - innovation". Preschool education in a digital society, despite the awareness of the role of preschool education, is less often taken into account in forecasts, although the state sets the task of implementing a digital educational environment for all levels of education [8]. Given the current situation of preschool education in the

conditions of global digitization and mass communication, it is impossible without improving the management information support system based on the use of information and communication technologies in various areas of the preschool education system (Fig. 2).

The above areas of use of information and communication technologies make it clear that in any organization management is a purposeful activity, management of a preschool institution is a justified influence on the teaching staff, service staff, children, parents and the public as a whole. In connection with this, effective management of a preschool educational organization is impossible without the use of information and communication technologies. It should be noted that the effective implementation of innovations in the educational process of preschool organizations is facilitated by a combination of various factors (Fig. 3).

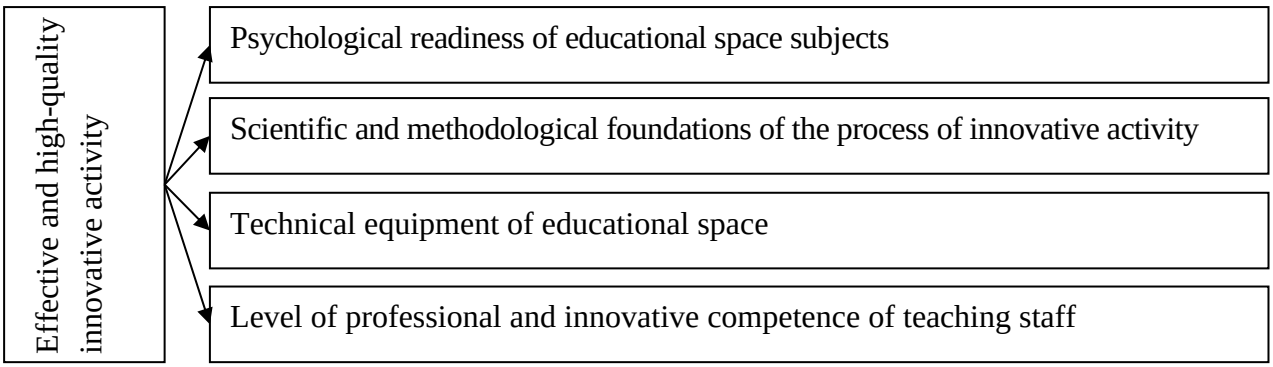

Figure 3. Conditions for effective implementation of innovations in the field of preschool education

Source: Developed by the authors based on European digital education hub (2022)

The use of information technologies in modern preschool education is dictated by the rapid development of the information society, the wide spread of multimedia technologies, electronic information resources, and network technologies as means of learning, communication, and education. That is why today it can be said with confidence that information and communication technologies are an integral part of the process of learning preschool children. It is not only accessible and common for students of the new generation, but also convenient for a modern teacher [11; 12].

Currently, preschool institutions can use various software tools that allow solving management tasks, thereby simplifying their work. The use of means of communication, specialized software products, and modern computer technology

in preschool education institutions for the purpose of information support for management contributes to [13;14]:

- prompt obtaining of the necessary information (normative, legal, scientific and educational and methodical);
- effective organization of electronic document management;
- accounting automation;
- support of information interaction between participants of the educational process;
- formation of databases: "children", "parents", "staff", "material and technical base", etc.;
- processing and storage of research results (diagnostic, marketing, etc.);
- analytical assessment of the consequences of management decisions (operational and strategic);
- expanding contacts with colleagues, experts and education management bodies, including online;
- monitoring the quality of preschool education.

Conclusion. Informatization and digitization of preschool education open up new opportunities for the wide application of information and communication technologies and digital technologies in pedagogical work, allow the teacher of preschool education to show creativity with their help, encourage to find and create new methods and technologies of learning based on the information and communication technologies of competences. A safe subject-developmental environment is created for preschool children, new visualization tools are used, which ensure the successful development of their memory, attention, imagination, logic, language, mathematical ideas, etc., the formation of primary ideas about themselves, other people, objects in the environment world, independent creative activity.

The use of digital tools in educational and educational processes is one of the modern trends in preschool education. The use of information and communication technologies helps the teacher to diversify the forms of support for the educational process, to improve the quality of work with the parents of pupils, as well as to popularize the activity of the teacher of the group and the preschool education institution in general.

Prospects for further research are the peculiarities of the use of platforms for communication with parents by educators and the administration of preschool education institutions.

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10. DIGITAL TECHNOLOGIES IN THE MANAGEMENT OF AUDIT SERVICES

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Introduction. In the world, computer technologies are used to solve most problems. They help to avoid mechanical errors, speed up operations, and improve the quality of work performed. Automation of production, research, training, business, management and other industries is taking place. For businesses seeking to succeed, automation and digitization is now the way to create new value, increase profitability, and retain employees and customers. This process did not bypass the field of auditing.

The use of computers significantly affects the implementation of control and audit procedures. However, control functions are the most difficult to automate. Auditors should not separate financial accounting and auditing from oversight of information systems that generate data.

Literature review. The study of scientific sources on this topic shows that they become outdated faster than they are published, so it was necessary to turn not only to the latest publications of Ukrainian and foreign scientists [2, 3], but also to information from the websites of international auditing companies [4, 5, 6, 7, 8, 9, 10, 11], developers of automated audit solutions [1, 12, 13, 14, 15], as well as to materials from meetings of practicing auditors, accountants and teachers of accounting disciplines [16] and current legislation [17, 18].

Results. The most famous auditing companies that are the "Big Four" (PWC, E&Y, Deloitte, KPMG) have developed and use special information systems focused on improving the management of audit services, on the internal regulation of audit activities using internal company standards. In domestic practice, audit firms use either Excel or foreign apps: CaseWareWorkingPapers, ACL, Audit System-2, TeamMate. The new software AXIOMA-AUDIT [1] will be on Ukrainian market soon.

Briefly, the main requirements for audit software can be defined as follows [2]:

- continuous updating of regulations;

- ensuring a uniform approach of various specialists to audit inspection;
- ease of use and versatility;
- support of quality control procedures;
- the possibility of flexible adjustment of audit structure;
- information security and demarcation of access rights;
- automated processing of big data;
- integration with client's external systems (accounting programs, email etc.);
- analysis of the audit results.

As more and more data is generated through the digitization of companies, this information must be used effectively to deliver high-quality audits and enable auditors to focus more on identifying risks and understanding the business. Auditors should help clients adapt processes, control mechanisms, structures and corporate management systems to modern challenges. In the course of the analytical review, we will compare solutions developed by the big four companies and solutions offered by third-party developers.

KPMG (Klynveld Peat Marwick Goerdeler) planned to use the Watson analytical system in collaboration with IBM to check the reporting of American companies [3]. Watson was planned to be trained, for example, to evaluate all bank loans to determine the correctness of the risk assessment [4]. Later developed by KPMG Clara. It is an intelligent audit information exchange platform built on Microsoft Cloud technology [5].

KPMG coordinated the data elements and requirements and moved from selective testing to 100% testing. They use data extraction and transformation technologies, visualization, robotic process automation (RPA), smart glasses for remote inventory. KPMG Clara provides, among others, the following features:

- effective interaction with the project team, the opportunity to discuss specific findings, risks and ideas;
- 24/7 access to audit reports;
- transparent interaction between the client and auditors;
- coordinated implementation of projects around the world;
- the ability to track tasks in real time;
- a convenient space for the exchange of documents.

Chain Fusion (part of KPMG Clara) integrates with blockchain API services to effectively support the auditing of clients with cryptocurrency investments.

KPMG LLP Virtual Audit Room (part of KPMG Clara) enables real-time communication and knowledge sharing, resulting in a well-knit team. KPMG LLP's patented technology uses optical character recognition to extract data from unstructured documents.

That is, KPMG in one solution KPMG Clara embodied what, as will be shown below, other companies have divided into three platforms. PWC (PricewaterhouseCoopers) offers its clients the following audit qualities: professionalism, accuracy, transparency, efficiency, individualization, analytics [6], using three complementary audit automation solutions: Aura, Halo, Connect (table 1).

Table 1

Functionality of digital solutions PWC Aura, Halo, Connect

Aura	Halo	Connect
Risk-based approach. A global ERP system based on a single methodology in all countries of the world. Provides a systematic and targeted approach to audit risk; deep understanding of the client's business thanks to a comprehensive picture of the entire audit process; the ability to monitor the quality and progress of the audit task in real time, accessible via a secure protocol on mobile devices at any time and from any place.	Obtaining in-depth analytical conclusions. Tests large volumes of business data and allows to analyze data sets, improve risk assessment. Thanks to the comprehensive analysis of trends and financial indicators, clients receive valuable analytical conclusions. The infographic functionality instantly visualizes trends and high-risk transactions; provides a deeper understanding of client's business.	Global information and coordination resource. Ensures prompt, efficient and secure exchange of information at each stage of the audit. Systematizes, standardizes and automates communications between auditors and clients in real time 24/7 anywhere; increasing the audit process efficiency thanks to data consolidation and automation of messages.

Source: PWC official website (2022)

Deloitte (Deloitte Touche Tohmatsu Limited) begins each audit by providing an informed judgment on the accuracy of the financial statements. During the audit, they explain what, how and why to change, so that clients are always came first [7]. Deloitte's goal is to experiment with new business models and technologies, constantly raise quality standards, and develop collective knowledge at Deloitte University.

Deloitte once developed its own software tool AuditSystem/2, which, among other things, determines the relevant risks through a thorough assessment of the client's industry and activities [8]. Auvenir, an intuitive technology platform built on machine learning and artificial intelligence to accelerate the audit process, is now patent pending. Deloitte transforms audit from an obligation into an opportunity. Deloitte conducts audits using three interconnected digital solutions: Deloitte Magnia, Deloitte Cognia, Deloitte Illumia. Unfortunately, the information

about them is so vague that it is difficult to even understand the difference between Magnia and Cognia (table 2).

Table 2

Functionality of digital solutions Deloitte Magnia, Cognia, Illumia

Magnia	Cognia	Illumia
An advanced global platform for auditing. Magnia enables comprehensive, targeted and simplified auditing worldwide.	A single shared global repository of innovative audit tools and best practices. Cognia allows to continuously maintain consistency, high quality and effectiveness throughout the entire audit.	An analytical platform that provides deep insight into the behavior and activities of a client's business. Illumia improves the quality and accuracy of audits and provides clients with more valuable information.

Source: Deloitte official website (2022)

EY (Ernst & Young) strives to meet the changing needs of business, regulatory authorities and investors, as well as to provide greater confidence in the capital markets, a better business perspective and increased transparency [9].

Table 3

Functionality of digital solutions EY Canvas, Helix, Atlas

Canvas	Helix	Atlas
Online platform of end-to-end audit process. Canvas is hosted on EY's private cloud, allowing auditors to coordinate, manage and conduct audits anywhere, regardless of size or complexity. Transparency enables global audit findings to be captured, noticed and shared as they emerge. An integrated online portal in 10 languages reduces the number of email inquiries to customers. Three mobile applications that help save time for employees and customers. Saves customers time: The camera function allows you to capture audit evidence and securely upload it to Canvas. This evidence is not stored on smartphones.	Platform for data analysis. The Helix parser library can handle data of any size and is accessible to all teams everywhere. Identifies hidden trends and patterns in customer financial data, anomalies in business processes and controls for further investigation. Helix Key Analyzers: General Ledger Analyzer; stocks; accounts payable; income and receivables; mortgage loan; Group Scope Analyzer - systematization of financial data to substantiate the audit strategy.	Cloud platform of knowledge. Atlas provides up-to-date accounting, auditing and industry information. The client version of Atlas is subscription-based and provides direct access to EY's technical expertise related to accounting, financial reporting and regulatory documentation.

Source: EY website (2022)

EY invests in new technologies that reduce human errors, increase accuracy and objectivity, improve quality through big data analysis, and optimize time spent:

- artificial intelligence (analysis and extraction of information from unstructured data (contracts, invoices, images) to obtain audit evidence, analysis of large data sets to identify and assess the risks of material distortion due to dishonest actions);
- drones (inventory monitoring);
- pilot projects on blockchain implementation (own Blockchain Analyzer to provide customers with greater transparency of their blockchain transactions) [10].

EY offers three complementary solutions for audit digitalization: EY Canvas, EY Helix, EY Atlas (table 3). The international company BDO combines its own digitalization with helping clients go through the path of digital transformation, rethinking the way of doing business, implementing changes into a new reality, maximizing value with minimal disruption to the existing infrastructure. BDO Digital does not disclose on its website the specifics of its software for conducting audits, but focuses on helping clients in digital transformation, dividing it into three areas [11]: Digital business = GROWTH, Digital process = PROFITABILITY, Digital basis = SECURITY (table 4).

Let's consider in more detail the features of the software developed by IT companies for a wide range of auditors.

The CaseWare is a leading international company in the automation of financial control, audit and reporting processes according to IFRS [12]. CaseWare reduces paper work, allows to be sure that every figure in the report is correct after many changes:

- possibility to download data, synchronization with 1C, SAP;
- Ukrainian-language interface;
- possibility of remote work;
- always up-to-date regulatory framework of international standards;
- shortening the terms of the audit;
- minimization of the risk of mechanical error;
- effective planning of working hours.

Audit solutions from CaseWare offer:

- a control journal that collects all documents and supporting materials in one place so that they can be easily displayed;
- SmartSync - technology for team members to collaborate on a project file in real-time from different locations to ensure that all data is up-to-date for all users;

- Constellation - a work scope visualization tool that graphically demonstrates how elements are related, allowing to see where more work is needed to complete a task, to identify gaps and audit deficiencies;

- CaseWare Cloud;

- Working Papers - a flexible project management software that includes direct scanning, online review, efficient cleaning, and sophisticated blocking;

- Connector – a Microsoft add-on for working documents that allows to automatically synchronize trial balance data with Microsoft Word or Excel templates; link information from the client's profile, accounts, comparisons, tax export codes, etc.

Table 4

Directions of digital transformation of BDO

Digital Business - Growth	Digital Process — Profitability	Digital foundation — Security
Digital transformation. Optimization of business processes and infrastructure, product solutions and services, corporate culture, channels of interaction with clients and counterparties. Digitization of marketing, improvement of customer experience - the start for all subsequent digital changes, the "Digital journey" begins with it.	Analysis of business processes. BDO advises businesses on the implementation and use of accounting, ERP and CRM systems, develops accounting policies, modules (add-ons) for existing accounting systems. For example, IFRS modules: inventory valuation reserve; discounting of financial loans; reserve for receivables; rent; reserves; financial instruments; biological assets; iXBRL e-reporting (preparation, validation of the client file, uploading); E-audit and SAF-T (standard audit file developed by the Organization for Economic Co-operation and Development (OECD)).	Digital workspace. Remote access at any time, work from any device in the cloud. Transferring server capacity and customer employee data to the protected Microsoft Azure cloud or Western hosting, setting up remote work based on Microsoft 365 (Office 365, Exchange Online, Teams, OneDrive and Sharepoint), strengthening cyber security. Selection of document management system, training of employees. Analysis of information security based on artificial intelligence by CISA certified specialists.

Source: BDO website (2022)

Audit Command Language (ACL) Analytics is a software for obtaining and analyzing big data used for fraud detection and prevention, as well as risk management [13]. Analytics is a data analysis application that provides an efficient combination of data access, data analysis (with ACLScript, a scripting language), and integrated reporting (for example, importing into Tableau, Excel, or text with separators), and ensures data integrity.

AuditSystem/2 is a platform for providing the necessary result-oriented client services [14]. With a deep understanding of accounting principles and the

growing opportunities and challenges associated with today's business environment, AuditSystem/2 provides software that supports all stages of planning, execution and reporting of the audit process and thus makes the most efficient use of auditor’s time and skills.

TeamMate offers the latest technologies in the field of auditing and validation of information to increase productivity and flexibility to respond to changes in business [15]. They connect mission-critical business systems and key stakeholders to eliminate disparate decision-making and improve organizational efficiency. They implement integrated analytics for clients to reveal hidden risks and obtain objective, comprehensive results. Use integration to collaborate with stakeholders and collect data in real time. Provide auditors with analytical capabilities through an Excel-based data analysis tool and a library of 150 automated audit tools (CAATs). Perform control and risk assessment in one application, combining the need for independence with internal collaboration, high-level information sharing, which reduces duplication of auditor efforts throughout the testing and troubleshooting process.

The developers of the AXIOMA-AUDIT declare the following goals [16]:

- reduce the auditor's work to checking whether the client is using the program correctly, because first of all they suggest checking suspicious manual operations bypassing the accounting program;
- reduce the work of quality control to checking whether the auditor is using the audit program correctly.

AXIOMA-AUDIT offers the following functions:

- quality management at the company level;
- trial balance, data download;
- compliance with the requirements of the Audit Chamber "Identified risks of material misstatement and procedures in response to them";
- risk tree;
- method of audit inspection;
- document tree for planning;
- files - working documents - sample;
- mandatory procedures;
- time management;
- instructions;
- necessary works;
- auditor's conclusions.

The software contains document logs that relate to groups of audit sections and, figuratively speaking, are analogous to a closet, where elements of audit sections are shelves, individual documents by procedure are folders that hold files.

There are four "closets" for completing the task, which are arranged in the program "room":

- audit planning;
- assessment of audit risk;
- measures in response to the risk;
- the final stage of verification and reporting.

The program envisages the interrelationships of six methodical standard reference books (Fig. 1)

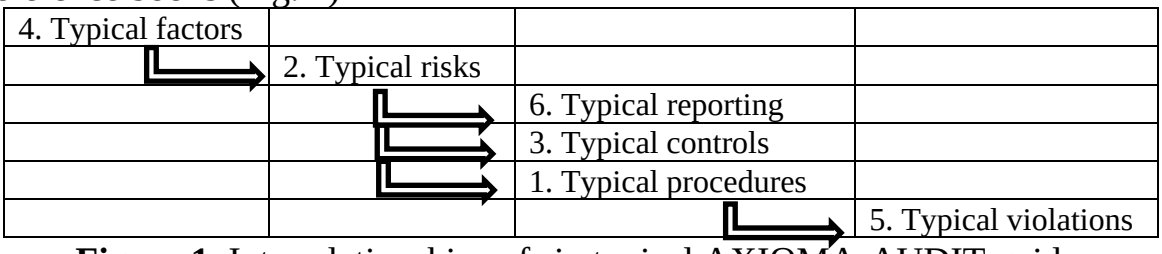

Figure 1. Interrelationships of six typical AXIOMA-AUDIT guides.
Source: AXIOMA-AUDIT website (2022)

A summary comparison of the software developed by the "Big Four" companies for themselves is presented in Table 5.

Table 5

Comparison of audit software developed by the "Big Four" companies

PWC	KPMG	EY	Deloitte	BDO
Aura – risk analysis, Halo – analysis of financial indicators and their trends, Connect is a communicator between auditors.	Clara is a cloud technology, a centralized platform for information exchange. Chain Fusion - integration with blockchain API services. KPMG LLP Virtual Audit room. KPMG LLP - extracting data from unstructured documents.	Canvas - cloud technology, risk analysis, audit planning, 10 languages, Helix – a library of analyzers, determining trends, Atlas – update of regulatory requirements, useful industry information for clients.	Magnia - comprehensive set of audit procedures, Cognia - global repository of innovative audit tools, Illumia is an analytical platform.	- digital transformation of clients' businesses, - analysis of customer experience, - analysis of business processes, - implementation and use of accounting, ERP and CRM systems, - accounting automation according to IFRS, - iXBRL e-reporting, - E-audit and SAF-T, - remote access, - cloud technologies, - customer cyber security audit.

Source: PWC, KPMG, EY, Deloitte, BDO websites (2022)

A summary comparison of software developed by IT companies for a wide range of auditors is presented in Table 6.

Table 6

Comparison of software developed by IT companies for auditors

CaseWare	ACL Analytics	Audit System/2	TeamMate	AXIOMA-AUDIT
- Ukrainian-language interface; - synchronization with accounting programs; - remote work; - current regulatory framework; - optimization of working time; - convenient communication between auditors; - cloud technology; - data security.	- data analysis, - detection of fraud, - risk management, - data security.	- planning, execution and reporting on the audit process, - optimization of working time; - data analysis.	- convenient communication between auditors, - data analysis, - risk assessment, - optimization of working time.	- planning, execution and reporting on the audit process, - optimization of working time; - risk assessment; - check: whether the client is using his accounting program correctly; whether the auditor is using the audit program correctly.

Source: CaseWare, ACL Analytics, Audit System/2, TeamMate, AXIOMA-AUDIT websites (2022)

Using the norms of Ukrainian legislation [17] and International Standards on Auditing [18] regarding the auditing organization and progress and the above features of the audit software, we tried to summarize what the optimal audit digitalization program should be. Each audit must begin with the creation of a new audit project (audit task) with the selection of an audit methodology template, according to which the audit structure will first be created. The audit should take into account the specifics of the situation in which the business operates.

The audit methodology template should contain a complete set of audit procedures, starting with the acceptance of the audit task and ending with the provision of an audit opinion, procedures after issuing the audit report and quality control of the task. All procedures in the template must be related to each other both by the sequence of their execution and by data affecting the course of the audit.

Before the execution of the task, its manager needs to see the complete set of actions and procedures that must be performed, as well as the reference value of the required labor costs for each procedure, so that the task manager can only appoint the responsible people. The set of audit procedures can be changed during the audit, both manually and automatically, as a result of planned procedures and clarification of the terms of the assignment.

Calculation of materiality or identification and assessment of risks can automatically remove unnecessary audit sections or individual procedures from the audit strategy and plan, or on the contrary can add them. That is, all procedures

required by the ISA are initially created by default, and during the audit, this list will automatically change taking into account the evidence collected by the auditor.

During audit procedures, the program should automatically adjust the audit structure taking into account the data of a specific project. For example, depending on the accounting reporting forms loaded into the program (the presence of certain indicators and their values) and the calculated level of materiality, only those audit sections and procedures that are determined to be material for this reporting will be included in the audit plan. Also, the audit plan will change depending on the type and field of activity of the client. This allows the auditor to focus more on the specifics of the audit rather than on detailed audit planning. All calculations should be automated and provide an opportunity to analyze large volumes of data, for example, comparing reporting indicators with each other and data in the client's accounting database, or analyzing the general population, calculating the value and building a sample taking into account the identified risks.

Also, a convenient characteristic of the audit automation solution is the absence of the need for the user to constantly copy the same data from one working document to another, that is, so that the entered data is immediately available in other working documents. All forms must be templates filled in from other work documents or manuals, automatically and/or manually. The guide can be a set of questions/answers of the test, the text of the query letter, and the text of the auditor's remarks or conclusions. Most of the calculations and risk analysis should preferably also be done automatically in the program, based on data entered or selected from the directory. Cells for selection from directories or manual input should be visually separated from static data of working documents. Also, the use of the client's accounting database and reporting forms allows to automatically find discrepancies between financial statements and accounting data.

It is desirable that the program automatically substitutes data from one working document to another related to it. This will reduce the risk of accidental or intentional misrepresentation of information, as well as reduce the likelihood of analyzing outdated or inaccurate information about related audit procedures, especially when responsibilities for performing different procedures are distributed among different members of the audit team (for example, if one auditor lists the amount materiality or changes the conclusion according to the procedure, these data will immediately become available to other members of the audit team). Also, such automatic transfer can eliminate discrepancies of data and conclusions in different audit procedures (for example, if one risk value was initially established, and during the verification process this value was revised, then all related data will also be corrected).

Of course, only approaches based on the theory of probability and mathematical analysis should be used, which will avoid the influence of subjective human factors.

In addition to the above, the program should have the possibility of entering a typical description of potential violations discovered during the audit, that is, the possibility of choosing from the directory of violations or describing it yourself. Violations detected during the audit should be automatically transferred to the auditor's report (according to ready-made templates) provided to the client, therefore, the violations detected by the auditor are uploaded to the appropriate section of the auditor's report or the auditor's opinion on the requirements of the ISA.

Based on the results of the audit, it is possible to prepare an audit report. The program provides for the possibility of creating a directory of possible wordings that are used during the preparation of an audit opinion. Additional protection of information is the signing of the final audit file of the QES (qualified electronic signature) directly in the program with its storage in the database.

Conclusion. So, specialized audit software products can be divided into several interrelated types: audit procedure automation programs, cloud storage, communicators, and analytical programs. Automation of audit procedures allows you to calculate audit risk and audit samples, and in general to cover the entire verification algorithm, starting with getting to know the client company, exchanging letters and ending with the audit report.

As a rule, these programs are developed by audit companies and are designed to use a certain information processing technology. The material in these programs is structured by sections and presented in the form of questions and answers to them on all aspects of financial and economic activity of economic entities.

As companies adopt advanced technologies to transform their businesses, they face new challenges and vulnerabilities. By investing in the protection of themselves, their clients, and customers, audit firms will be able to take advantage of technological advances while avoiding the dangers that come their way.

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11. INTERNET ADVERTISING AS AN EFFECTIVE TOOL OF INTERNET MARKETING IN MODERN BUSINESS CONDITIONS

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The article discusses the theoretical foundations of Internet marketing, analyzes the use of Internet marketing tools, investigates the introduction of innovative Internet marketing trends in the activities of modern enterprises. Internet marketing tools have been reviewed and characterized, such as: SEO-optimization, ie search engine promotion; E-mail; advertising on social networks (SMM); contextual advertising, one of the most popular advertising methods on the Internet; banner advertising. The main trends that dominate the field of Internet marketing are identified and analyzed.

The essence of Internet advertising, the modern state and the volume of online advertising compared to other types of media advertising.The essence and kinds of online promotion, the steps and the means of the online advertising market as a part of the media market, the proposed use of tools and online promotion made their comparison.

In the conditions of modern business challenges, the Internet plays an important role in the process of conducting business, as it allows to form long-term and effective interaction of business partners, to strengthen the competitive position of enterprises. In order to successfully use information and communication technologies and obtain benefits from the use of the Internet, enterprises must spend financial resources on the purchase of software products, create and implement effective systems and technologies, use modern management methods and an integrated system of marketing communications.

In the information society, the Internet acts as an active advertising channel. Today, it is difficult to find both a field of entrepreneurial activity and an enterprise that would not promote its products on the Internet. At the same time, various

goods and services are advertised on the Internet with varying degrees of activity, and various types and tools of advertising are used.

The relevance of the research topic consist of the fact that in the modern world, the leading role belongs to innovations that are developing rapidly and radically changing entire sectors of the economy. In the era of the development of information technologies, the popularity of the Internet is growing more and more actively, and the number of Internet users is increasing every day.

Therefore, today's business will not be able to operate successfully without using the information resources of the World Wide Web. The realities of our time bring the needs of consumers to a qualitatively new level, forcing enterprises and organizations to adjust their marketing strategies, supplementing them with modern tools. Business is increasingly going online, as it is not only convenient, but also profitable and less energy-consuming. In addition, comparing the capabilities of traditional advertising channels and the Internet, experts are convinced that the second option will be the leader in development, because it develops much faster. That is why it is always important to pay attention to the latest trends in the field of Internet commerce, so that advertising companies continue with maximum effectiveness. The development of the World Wide Web contributed to a change in approaches to the marketing complex as a whole.

Most modern commercial companies and non-commercial organizations have a full-fledged resource, a blog or a page on the Internet. However, creating a network resource and filling it only with informational content will not be able to provide the site with an increase in its popularity, add recognition to the company, and definitely will not give a result in the form of an automatic increase in the level of sales. Targeted work on its popularization, SEO promotion and conversion increase is necessary, which is actually what Internet marketing specialists do.

Complex application of all possible marketing and Internet marketing tools, trends, advertising channels and promotion of resources on the Internet makes it possible to increase website traffic and increase the level of sales.

Literature review. The study of the theoretical, methodological and methodological foundations of the formation and development of Internet marketing and Internet advertising is covered in the works of ukrainian and foreign scientists, such as: D. Bell, J. Burnet, D. Jobber, S. Moriarty, J. Wright, R. Riddick, H. Bagiev, O. Golubkova, A. Vojchak, T. Dibrova, M. Lebedenko, T. Lukyanets, V. Pylypchuk, T. Primak, I. Reshetnikova, E. Romat, A. Sheremet. Their works present the structuring and classification of means of Internet product promotion.

At the same time, theoretical and practical questions regarding the justification of the essence and role of Internet advertising in the information society and its types and tools are the subject of scientific discussion and require further scientific development.

Results and discussion. Modern trends in market development contribute to the increased development of the latest approaches to the positioning and promotion of goods and services on the market. In the previous years the Internet advertising was actively developed and her advantage is obtaining the greatest effect from a potential target audience.

"The Internet is like a rocket-accelerator that pushes forward the company's sales and promotes development," says Philip Kotler. – "We dream that all the buyers of the world will carry out their trade deals through the Internet" [1, p. 244].

Internet advertising is a large complex of activities, the implementation of which is not always aimed at actively offering a product or service. Internet promotion is the process of using practical activities on the Internet, the main purpose of which is the effective popularization of certain information units (site, idea, objects of intellectual property, photos, videos, goods, services, etc.).

Therefore, Internet advertising is an advertisement that is placed on the Internet to present goods, services or a business on the Internet, and it is addressed to the mass consumer and has the character of persuasion.

The use of Internet advertising is explained by a number of ***advantages*** it gives to the manufacturer or seller, namely [2]:

- **quick delivery** - in most types of advertising on the Internet, the user can see the advertisement immediately after the advertisement is launched. If you compare classic outdoor advertising with banner advertising on the Internet, then first you need to draw banners, and in both options, in this case, there will be approximately the same time costs. But then, in classical advertising, these banners must be printed and pasted around the city. On the Internet, we simply upload banners to the advertising network and that's it - people can already see them.
- **control of efficiency** - modern analytics systems give us a clear understanding of which advertisement worked better (brought more sales, applications, calls). A similar analysis in outdoor advertising is simply impossible.
- **accurate audience targeting**. Targeting is a mechanism that allows you to select only the target audience from the entire audience and show ads only to them. This saves the company money on advertising and increases conversion.
- **remarketing** – a set of approaches and opportunities for working with users who once visited your resource.

Along with the advantages, Internet advertising has certain ***disadvantages***:

- Others can copy and use existing works in the network for commercial purposes - it's unpleasant, but it saves budgets and this is how the market works.
- Distracted attention – the banner takes up 10% of the page, and TV advertising takes up 100%.
- Some network users have a biased attitude towards any kind of advertising on the Internet and do not click on advertisements as a matter of principle.

There are several main ***features of advertising on the Internet*** [3]:

1 – engaging users to perform certain actions. The effectiveness of advertising on the Internet in comparison with advertising in newspapers, billboards, on television is explained by the fact that Internet advertising works in such a way that by its appearance and definition of a "successful location" it invites a potential consumer to join the process he needs: to click on a banner and go to the required page, follow a hyperlink, answer a question or fill out a form.

2 – reaching a large number of users in the Internet environment. Thanks to the possibilities of Internet advertising, it is possible to reach a large number of Internet users who can be potential customers.

3 – the possibility of segmenting all Internet users into the seller's target audience. Because of constant improvements of advertising platforms, it is possible to segment users in detail by interests, geolocation, age, gender, previous Internet searches and other methods. In this way, ads will be shown only to those who fall under the audience configured by the seller. Segmentation of the target audience in this case helps to minimize costs and increase sales.

4 – the ability to accurately measure the results of advertising on the Internet. Advertising results are the most important thing to analyze. Without having any number, we cannot understand whether the advertising on the Internet was profitable or not. Today, there are more than 100 systems that can be used to analyze the effectiveness of advertising on the Internet. For the most part, the indicators of the effectiveness of advertising on the Internet can be viewed in the admin. panels, where advertising settings were made, or Google Analytics, which will allow you to review not only the effectiveness of advertising on the Internet, but also the effectiveness of the company's website or online store in general.

It is important to constantly monitor the indicators when advertising works on the Internet. Already buring 48 hours when the advertising work, you can determine what mistakes were made during the setup. If this still happened, it should be corrected, because, in this way, the company will waste the budget and will not receive any positive result from Internet advertising.

In today's conditions of instability of the market environment, many enterprises are closed, small and medium-sized businesses and trade through the Internet are developing, which contributes to the development of Internet

advertising. The relevance of the use of Internet advertising is also explained by its price variety and lower cost compared to most types of media advertising.

Statistics on the use of advertising on the Internet indicate a constant increase in its use and the development of new types. The global Internet advertising market is growing annually by 14,3%. This is faster than India's population growth (CAGR 1,3% over the last 10 years) and China's GDP (CAGR 9,9% over the last 10 years). In recent years, the activity of using mobile advertising has been growing at a dynamic pace. The mobile advertising market has grown 19 times over the past 6 years and generates 98% of all Facebook revenue growth [4].

According to research by the Ukrainian Advertising Coalition, the actual growth of advertising volumes on the Internet in 2021 was 48% compared to 2020, which is partly explained by the post-Covid adaptation revitalization of the industry and the relocation of budgets from traditional offline media [5]. It is also explained by the fact that the number of Internet users in the world is constantly growing.

Fig. 1 presents 10 countries with the largest number of Internet users.

The figure shows that in 2022 the largest number of Internet users were in the Russian Federation, Germany, Turkey, England, France, Italy, Spain, and Poland. The number of Internet users is quite high in Ukraine as well. In July 2020, the number of Internet users in Ukraine was almost 41 million.

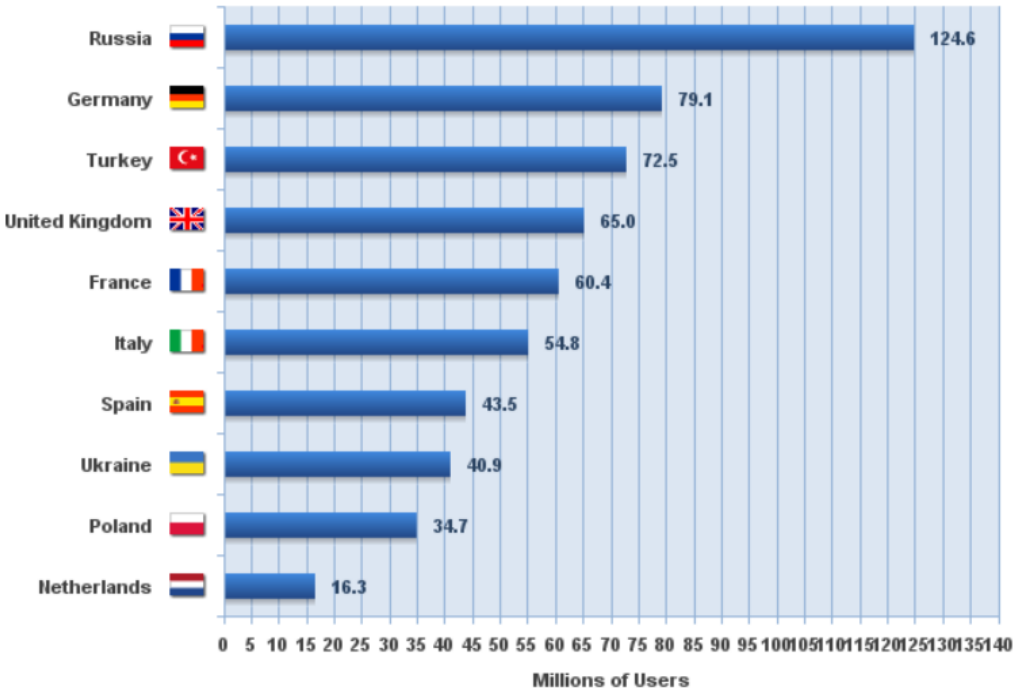

Fig. 1. Internet Top 10 countries in Europe July 31, 2022
Source: developed by the authors based on Internet World Stats [6]

It should be noted that the number of applications of mobile advertising has increased significantly in recent years. The dynamics of the use of mobile advertising in comparison with computer advertising is shown in fig. 2.

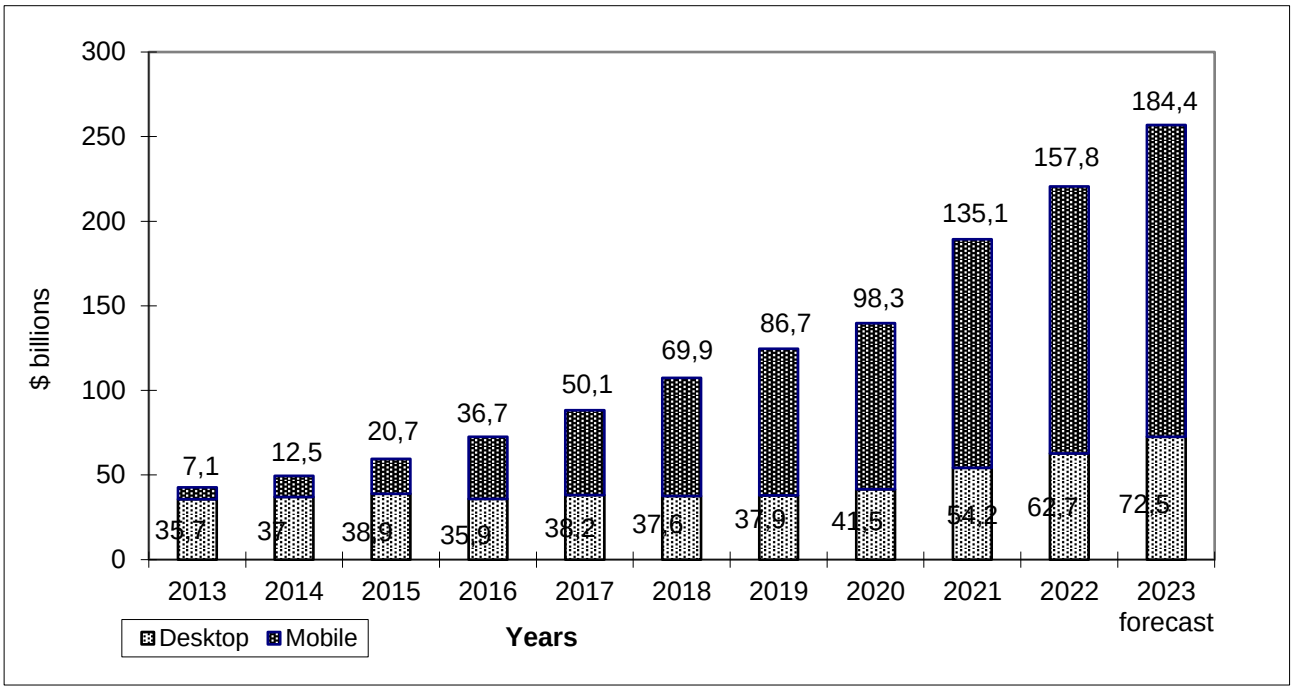

Fig. 2. Desktop vs. mobile internet ad revenues (2013 – 2023) ($ billions) [7]
Source: made by the authors using the data of IAB / PwC Internet Ad Revenue Report, FY 2021

The total amount of involved advertising in 2021 was 189,3 billion dollars. Advertising revenues for the second half of 2021 accounted for 54% of total revenue.

It can be seen from the figure that the volume of mobile advertising is growing every year, and our forecast for 2023 shows that the volume of mobile advertising will grow in the future, as the number of Internet users and mobile phone users are constantly increasing.

There are several types of Internet advertising based on its pricing policy. Accordingly, there are three main advertising models:

• **CPC (cost per click)** - payment per click is probably the most popular model. Payment is made when clicking on the ad. That is, the company that created the ad does not pay for the fact that users simply viewed the ad.

• **CPM (cost per mile)** – payment for 1000 advertising impressions. Sometimes it is used in banner advertising, but more often in video advertising.

• **CPA (cost per action)** - payment per action. In this model, the advertiser pays only for performing a certain action (for example, filling out an application on the site).

The table shows the advantages and disadvantages of using different types of advertising depending on the pricing model.

Table 1

Advantages and disadvantages of using different types of advertising depending on the pricing model

№	Type of advertising pricing model	Advantages	Disadvantages
1	**CPM (cost per mile)**	• cheapness; • the possibility of forecasting the budget; • guarantee of ad display in the quantity for which the advertiser paid	• impressions do not guarantee a link conversion and, accordingly, the attraction of new leads; • difficulties of prediction the volume of traffic, this is especially important for beginner sites, where the load hasn't yet been sufficiently tested;• low percentage of conversion.
2	**CPC (cost per click)**	• the number of transitions is easy to track; • lower risk of overspending the budget; • possibility of targeting according to a wide range of parameters.	• the cost of a click is usually formed on the basis of an "auction" between advertisers, which in highly competitive areas can make the cost of attracting users very expensive; • the transfer of a potential client to the site does not guarantee the implementation of a conversion action on his part.
3	**CPA (cost per action)**	• a completely transparent model of interaction, and the result is not only predicted, but also expected; • there is no need to understand in detail the parameters of the target audience and be afraid of inefficient draining of the budget;	• effective for campaigns with a commercial goal to achieve transactions; • suitable for those who are just starting an advertising campaign.

Source: developed by the authors based on [8]

Fig. 3 shows the growth of various types of advertising in 2021 compared to 2020. The graph shows the growth of such advertising as OOH, B2B, so these types of advertising should be explained in more detail.

The out-of-home (OOH) advertising market consists of advertiser spending on out-of-home media.

OOH comprises total advertiser spending on all formats of out-of-home media, and is split between physical and digital. Advertising spend is tracked as net of agency commissions, production costs and discounts. Traditional physical out-of-home media includes billboards, street furniture (bus shelters, kiosks) transit displays (bus sides, taxi toppers), sports arena displays, and captive ad networks (in such venues as elevators). Digital OOH includes any out-of-home advertising media that is Internet-connected (e.g. smart billboards).

Business-to-business (B2B) media, comprising business information, trade magazines, professional books and trade shows.

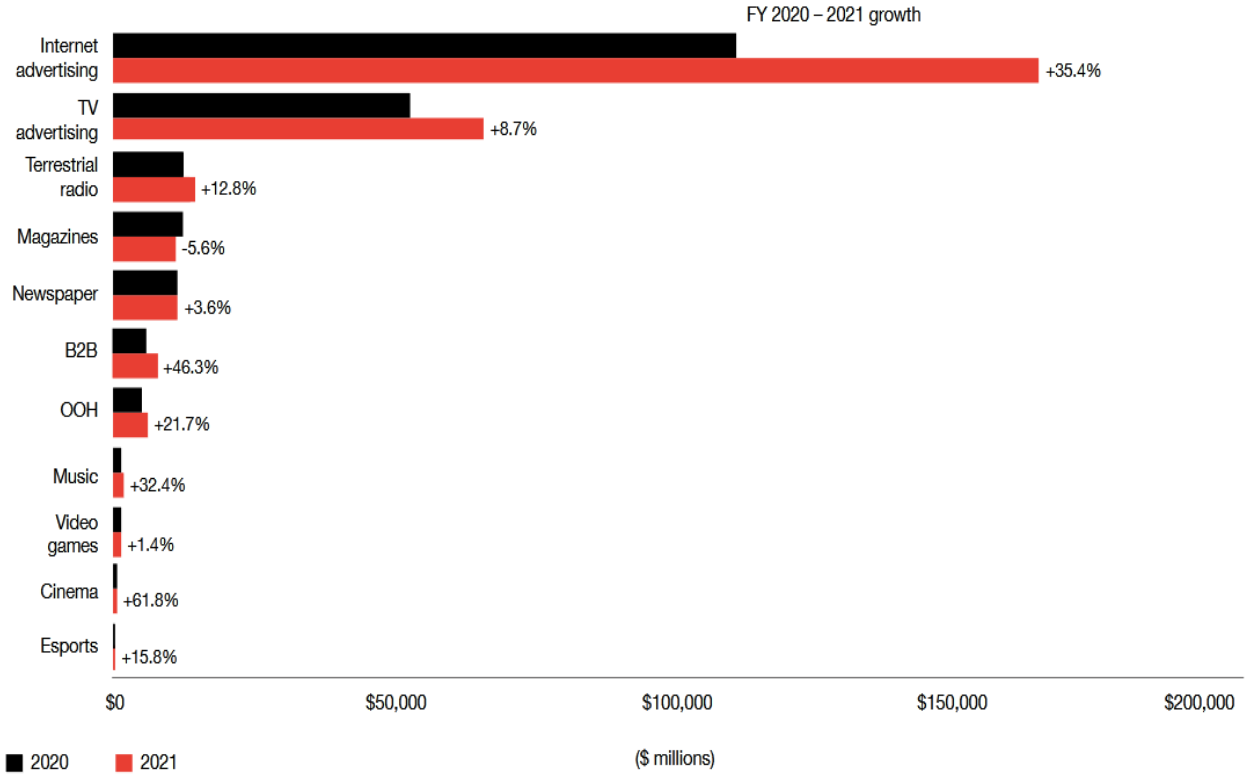

Fig. 3. Advertising revenues and growth, by media (2020 vs. 2021 growth) ($ millions) [7]

Source: IAB / PwC Internet Ad Revenue Report, FY 2021

The increase in Internet advertising involved in 2021 was 35.4%. The graph shows exactly how internet advertising prevails compared to other types of

advertising. Although it should be noted that advertising on television is also quite effective, but not as much as Internet advertising.

Internet advertising becomes effective due to such indicators as the cost of content and the ability to promptly intervene in the course of an advertising campaign, unlike television and radio. This makes it popular among enterprises [9].

According to the classification of The Interactive Advertising Bureau, the following areas of Internet advertising are distinguished: Search, Display, Mobile, DigitalVideo, Classifieds, LeadGeneration, RichMedia, Sponsorship, and Table 2 provides their description and analysis of their features.

Table 2

Types of Internet advertising by method of delivery to the user

Type	Description	Features
Display (Banners / Rich Media)	Ad banners (also known as banner ads) are one of the most dominant forms of advertising on the internet. Banner ads are a form of display advertising that can range from a static graphic to full motion video. Ad Types included Horizontal, Vertical, Tiles, Full Page Portrait, Full Page Landscape and Feature Phone Sizes.	Advantages: flexibility in formats and prices, low CTR. Disadvantages: after the end of the advertising campaign, the flow of visitors decreases.
Search	The selection of demonstration advertising messages is determined taking into account the user's search query	Advantages: good both in attracting visitors and when working with brands, great traffic potential, price depends on keywords.
Social	Advertising that reaches targeted audiences through social media platforms, messaging apps, and news feeds. Attracting traffic and attention to the brand or product through special platforms.	Advantages: a huge user base is available for different segmentation.
Email	Sending electronic advertising letters to the target audience, using the database of accumulated addresses.	Advantages: instant contact with the audience, personalization of messages. Disadvantages: Difficulty working with big data.
SEO	Optimizing the delivery of the site in search networks	Relatively inexpensive and long-lasting source of traffic to the site, but only with proper operation. Works well in combination with other engagement channels.
Affiliate	Promotion of business or product with the help of partners.	Advantages: pay-as-you-go/action, quick start-up, simple control. Disadvantages: difficulty in forecasting, reputational risks.

Source: developed by the authors based on [4]

Enterprises in the conditions of informatization of society use various types of Internet advertising, which differ from each other in methods, parameters and tools. Let's analyze the main types of Internet advertising that are widely used by enterprises. Namely: contextual advertising; media advertising; banner advertising; search optimization of sites (SEO); promotion in social networks; viral advertising.

Advertising in search is the kind of advertising that we are used to seeing when we "Google" something. This is very effective advertising on the Internet, because targeting takes place with the help of keywords. A relevant ad is visible exactly at the time when the user is looking for it. After clicking on the ad, the user gets to a certain page of the company's or store's website. If this page is of high quality and contains what the user was looking for, he will most likely take the targeted action on the site (application, purchase, call).

Banner advertising is product advertising using graphic or animated images in special areas of sites and portals. If the banners are placed on resources whose theme corresponds to the theme of the product or service offered on the banner, the effectiveness of the advertising campaign will be high. However, the use of banner advertising is mainly aimed at achieving an image that indirectly stimulates product sales. Approaches to evaluating the effectiveness of banner advertising on the Internet vary, but in most cases, the calculation of effectiveness comes down to determining the ratio of the number of clicks on the banner (if it is a link to another web resource) to the resources spent [9].

Google's contextual media network is, in fact, a network of ordinary sites and mobile applications to which the ability to display banners from Google has been added. It can be said that Google is an intermediary between site owners and advertisers. For the fact that Google provides the advertiser with a convenient tool for setting up advertisements, it takes % for each click on the advertisement. And the site owner, in turn, also receives additional income when someone clicks on an advertisement on his site.

In fact, media advertising is the display of banners on the Internet using the "pay-per-click" advertising model. The next type of Internet advertising is **remarketing**. It does not allow the Internet user to forget about this or that online store and helps to think about the purchase.

In recent years, **social networks** have become an integral part of the life of society, and in this regard, their use for product promotion has also turned out to be in demand and relevant. Information received by users in social networks is perceived as independent of the market. Due to this, new tools for the promotion of goods, used with the help of social networks, became available. Promotion tools in social networks include banner advertising, contextual ads, advertising in groups and communities, advertising in game applications, advertising distributed using

content distribution, independent expert advertising. The use of social network tools is characterized by relative cheapness, but so far the level of "quality" is completely blurred by the client. By the quality of the client here, we mean his target orientation in relation to the product being promoted.

Advertising in social networks can be divided into content marketing and targeted advertising.

Content marketing is the actual creation, design and maintenance of pages in social networks. The more professional, more creative and more relevant the content is on the pages, the more likely it is to attract customers.

Targeted advertising - in this type of advertising, users are targeted by a combination of various characteristics. This type of advertising is somewhat similar to Google's display advertising, which we described above (people's interests, demographics and many others characteristics).

The next type of Internet advertising is **teaser advertising** on the Internet. This is a kind of mix of media and contextual advertising, which has a number of features that allow them to be placed in a separate group. A teaser is an advertisement that consists of a headline, a small text that characterizes the advertised product and its photo [3]. A bright headline, intriguing text, and eye-catching photos are usually used. As a result of the effect of CTR-teasers, the similar indicator of contextual advertising on the sites of network partners can increase several times.

The creation and placing of teaser ads is carried out through the interaction of site owners and advertisers through special teaser networks. Search systems have nothing to do with such advertising, do not place it in the output, and in some cases may even reduce the position in the output of sites that are actively monetized by this type of advertising. Despite the low cost for advertisers, this type of advertising is rarely used to promote goods of the medium and high price segment, and even more so services. But there are cases of its effective use for goods of emotional demand and inexpensive products.

Geocontextual Internet advertising is a modern type of Internet advertising targeted at Internet users in a selected area. For example: if a company is the owner of a hotel, it can set up geocontextual advertising for users passing through this area or just planning a trip through the area where the hotel is located. Such Internet advertising will be displayed in applications, web maps, navigators.

Viral advertising on the Internet is a type of advertising materials, the main task of which is to attract the attention of Internet users (perhaps potential buyers) and to like them so much that they are ready to independently share this advertisement with others (perhaps without even suspecting that they share advertising, not interesting information, etc.).

Recently, **advertising in messengers**, in particular in Telegram, has become quite popular. It was in this messenger that such a thing as “channels” was introduced for the first time (other messengers also launched channels later). It's very similar to social media groups. A loyal audience subscribes to the channel, to which you can show advertising posts.

Pop-up windows have proven themselves more as aggressive advertising on the Internet, which is still in great demand. Despite its bad reputation, if used correctly, it is possible to improve website conversions, inform users about new products, collect an e-mail base for further mailing, and improve the site's behavioral factors [2].

Push notifications are a type of Internet advertising that has recently entered the advertising world. Push notifications are a very effective way of advertising, as such pop-up messages are usually seen by 80-85% of users.

Initially, push notifications were used in web applications, to constantly remind about the application, its changes, etc. However, this method seemed very promising for advertisers, and today we can already see the active use of push notifications in advertising.

E-mail mailings. Despite the fact that now is the era of messengers, electronic mail has not gone into the past. It continues to be used and even very actively.

Perhaps precisely because this advertising channel is used by few people, it has quite good efficiency.

The content consists in collecting a database of e-mail addresses of site users and continuing to communicate with them by e-mail.

SEO (search engine optimization) is the optimization of sites for search networks.

If you enter any query in Google search, you will see contextual advertising at the top. Results tagged “advertising”. But if you scroll down, you will see the so-called "organic" search results.

The main disadvantage of search promotion is that it takes a long time to achieve results. From 6 months in subjects with low competition. From 9-12 months in more complex subjects. In the most complex topics (mainly these are niches in which contextual advertising is prohibited) it may take even more than a year.

But, of course, SEO has its advantages:

• User trust – Google has always made sure that there were quality sites in the TOP-10, users are used to this and tend to trust such results. As a result, the percentage of conversions from SEO traffic is usually higher than from other traffic.

• Long-term result - even if the advertiser ends promotion or stops building links for several months, most likely, he will not lose his positions and will continue to receive traffic (unlike contextual advertising).

• Investment - building external links can be considered as a kind of investment, even if the company decides to close its business, the domain of its site can be sold, or you can set up a CPA lead transfer and make additional money from it.

There are also **free options for advertising on the Internet**. This type of advertising may be needed by those businesses that are just starting their activities. The main types of advertising include: site directories, bulletin boards, social networks, and blogging. In order to choose the most effective type of Internet advertising, you can test each type of advertising separately, monitoring the conversion rate and return on investment, and then allocate more budget for maximum coverage on the most profitable channel.

Conclusion. In conclusion, it is worth noting that advertising on the Internet is no longer a trend, although some entrepreneurs continue to perceive it as such. Now it is a necessity. It can be effectively used not only for selling goods and getting customers for services, it is also a great channel for spreading information about your brand and increasing its recognition.

Therefore, it should be concluded that with the development of society and the growth of progress in general, it becomes more and more difficult for entrepreneurs to promote their product or service, especially in conditions of fierce competition. Therefore, in order to successfully making a business, an entrepreneur must be an innovator, not be afraid of changes in the organization of marketing activities. A business owner must monitor all the actions of his competitors, use all possible (legal) ways to achieve his goal and increase profits. The most effective and efficient tool for this is Internet marketing.

Practically all modern commercial companies and non-commercial organizations have a full-fledged resource, blog or page on the Internet. It has become clear to almost everyone that Internet marketing as a tool for business development opens up a huge range of opportunities for entrepreneurs, but ignoring market trends and tendencies can lead to deplorable indicators of the economic efficiency of the enterprise, and subsequently to its closure.

Therefore, promotion of the company's goods and services to the Internet audience is an effective direction in the way of business development as a whole. Internet marketing should be used comprehensively, using the latest trends and tools, and not selectively or systematically. Actually, the key to the effectiveness of Internet marketing communications lies in a comprehensive approach.

Internet advertising is an effective tool of Internet marketing. Its application helps to bring brands to the market, attract customers and carry out many other processes that, other things being equal, would require more resources in an offline environment. With the help of Internet advertising, companies can significantly increase the level of sales, attract new regular customers, retain existing ones, and increase their visibility on the market. So, any involvement of Internet advertising is a requirement of today, which, without a doubt, should not be saved, because it can ensure a quick take-off and long-term prosperity of this or that brand and business as a whole.

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12. SPOŁECZNE ZAGROŻENIA WOLNEJ PRACY W NOWOCZESNYM SPOŁECZEŃSTWIE UKRAIŃSKIM

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Znaczenie badań. Nowoczesne społeczeństwo charakteryzuje się unowocześnieniem życia społecznego. Zmiany społeczne, światowy kryzys finansowy, w przypadku Ukrainy wojna i niestabilność gospodarki prowadzą do przemian transformacyjnych we współczesnej strukturze zatrudnienia na rynku pracy. Znajduje to odzwierciedlenie również w systemie zatrudnienia, który charakteryzuje się problemami bezrobocia, niezadowoleniem z warunków i jakości pracy, niespójnością interesów uczestników stosunków społecznych i pracowniczych oraz brakiem bezpośredniego związku między wydajnością pracy a wynagrodzeniem . Wszystkie te wyzwania rodzą dostępne na rynku formy zatrudnienia, częściej – nieformalne (zdalne). Na Ukrainie zatrudnienie zdalne jest wprowadzane dopiero na szczeblu oficjalnym i nabiera rozpędu. Najpopularniejszą formą pracy zdalnej jest „freelance".

Nie da się jednoznacznie ocenić rozwoju freelancingu, ponieważ zjawisko to ma charakter dwustronny. Z jednej strony spadek liczby bezrobotnych, samoorganizacja, nowe perspektywy dla osób niepełnosprawnych, z drugiej strony ograniczenia w komunikacji, niepewność społeczna, brak regulacji prawnych itp.

Działalność freelancerów jest coraz bardziej powszechna, pracownicy coraz częściej preferują pracę zdalną, współpracując z jednym lub kilkoma klientami. Wraz ze wzrostem liczby freelancerów wzrasta zainteresowanie tą formą zatrudnienia wśród ludności. Ale przechodząc na freelancing, należy wziąć pod uwagę nie tylko pozytywne aspekty, ale także zagrożenia, które istnieją w freelancingu, jak w każdej formie zatrudnienia, i mogą wpłynąć na dalszą pracę.

Freelancerzy napotykają na wiele problemów w uregulowaniu społecznych i prawnych aspektów stosunków pracy, co wynika z braku instytucjonalizacji tej formy zatrudnienia. Naukowcy zauważyli już specyfikę pracy freelancerów, ale kwestia ryzyka wciąż nie jest wystarczająco zbadana. Niniejsze badanie pozwoli na wskazanie głównych, najczęściej spotykanych zagrożeń i niebezpieczeństw, co pozwoli dokładniej zrozumieć negatywne aspekty freelancingu.

Rozwój naukowy. Freelancing jako forma zatrudnienia nie jest wystarczająco dogłębnie zbadany, dlatego badanie cech freelancingu, jego definicja oraz identyfikacja zagrożeń i zagrożeń społecznych jest zadaniem nadrzędnym. Niezależne badania znajdują odzwierciedlenie w pracach A. Priwałowej, S. Zaiczenko, W. Wiaznikowa, K. Nikutkinej, D. Strebkowa, A. Szewczuk i in. Szczególnie możemy wyróżnić te ostatnie, D.O. Strebkowa i A.V. Szewczuka, ponieważ ich prace opierają się na obszernym materiale empirycznym. Freelance jako forma zatrudnienia i freelancerzy jako typ pracownika w kierunku zagadnień rządowych i legislacyjnych zostały uwzględnione w publikacjach S. Wodolagina, S. Horlowej, W. Ignatkina, G. Kazarinowa, I. Kenina, N. Komarnitskiej i inni. Możemy stwierdzić, że temat freelancingu jest aktualny, ale tylko w wąskim gronie naukowców. Stan naukowego rozwoju problemu pokazuje, że były próby zbadania i rozwinięcia terminologii freelance, ale żadna z nich nie stała się dominująca.

Problematyczna sytuacja polega więc na istnieniu sprzeczności między udaną pracą jako freelancer a społecznymi zagrożeniami, na jakie świadomie narażają się pracownicy.

Głównym zadaniem naszych badań jest badanie zagrożeń społecznych i niebezpieczeństw związanych z freelancingiem we współczesnym społeczeństwie ukraińskim.

Najważniejszym warunkiem powstawania niestandardowych form zatrudnienia są procesy transformacyjne zachodzące na rynku pracy. Posiadanie technologii informatycznych, poziom wyszkolenia zawodowego wpływa na popyt i na rynku pracy, czyli rynek pracy jest systemem stosunków społecznych, który pozwala godzić interesy pracodawców i pracowników. Możliwe jest badanie przemian rynku pracy poprzez strukturę zatrudnienia ludności, co pozwala na ocenę stanu rynku pracy. W celu rozpoznania faktycznego stanu rynku pracy Ukrainy przeanalizowano dynamikę ludności aktywnej zawodowo, liczbę ludności pracującej oraz liczbę bezrobotnych w latach 2014 – 2019 [1].

Na podstawie analizy dynamiki liczby ludności aktywnej zawodowo (lata 2014 – 2019) obserwuje się generalnie negatywny trend w sferze aktywności zawodowej ludności. Porównując np. rok 2019 z rokiem 2014 można zauważyć

spadek liczby ludności aktywnej zawodowo w wieku 15 – 70 lat o 8,71%, w wieku produkcyjnym o 8,67%.

Analizując dynamikę płci ludności aktywnej zawodowo (2014 – 2019) w wieku 15 – 70 lat, można zauważyć, że liczba aktywnych zawodowo mężczyzn zmniejszyła się w badanym okresie o 1,86%, kobiet o 2,14%, a mężczyzn w wieku produkcyjnym o 2,04%. %, kobiety 1,42%. Według miejsca zamieszkania zmniejszyła się również liczba ludności aktywnej zawodowo (2014 – 2019) w wieku 15 – 70 lat.

W miastach, po gwałtownym spadku liczby ludności aktywnej zawodowo, w 2019 r. odnotowano niewielki wzrost. Na obszarach wiejskich w 2019 r. można zaobserwować wzrost siły roboczej o 1,7%.

Wśród całej populacji najbardziej narażona stała się populacja w wieku od 15 do 29 lat, której liczba w 2019 r. w stosunku do 2014 r. zmniejszyła się o około 26 – 29 %. Według innych grup wiekowych spadek jest niewielki - od 3% do 5%. Jednak od 2014 roku liczba ludności w wieku od 25 do 29 lat sukcesywnie spada. Wśród populacji kobiet w wieku 50-59 lat można zaobserwować wzrost liczby ludności w 2019 r. w stosunku do 2014 r. Największe zmiany zaszły w miastach w wieku od 25 do 29 lat, ich liczba w porównaniu z 2014 r. w 2015 r. była o 33,5% mniejsza. Na wsi wśród ludności w wieku 30 – 34 i 50 – 59 lat zauważalny jest wzrost liczby ludności aktywnej zawodowo odpowiednio o 16% i 6%. Największy spadek liczby ludności aktywnej zawodowo wśród osób w wieku produkcyjnym obserwuje się w miastach - 11,6%. Wśród mężczyzn w wieku produkcyjnym nastąpił gwałtowny wzrost liczby po 2018 r. z 311,1 do 375,7, co stanowi wzrost o 6% w porównaniu z 2014 r. W porównaniu z 2018 r. liczba ludności aktywnej zawodowo wzrosła w 2019 r., ale nie odnotowano wzrostu wśród ludności w wieku od 25 do 34 lat.

Tym samym po przeanalizowaniu dynamiki zmian liczby ludności aktywnej zawodowo w podziale na grupy wiekowe, płeć i miejsce zamieszkania w latach 2014 – 2019 można stwierdzić, że na Ukrainie panuje ogólna negatywna tendencja w sferze aktywności gospodarczej ludności, co znajduje odzwierciedlenie w aktualnym stanie rynku pracy, a co za tym idzie, w jego przeobrażeniach. W celu rozpoznania faktycznego stanu rynku pracy Ukrainy przeanalizowano również dynamikę liczby pracujących ludności w latach 2014 – 2019, która wpływa na kształtowanie się wskaźników ekonomicznych gospodarki kraju [1].

Według danych statystycznych z lat 2014 – 2019 liczba pracujących w wieku od 15 do 70 lat w 2019 r. w stosunku do 2014 r. zmniejszyła się o 7,5%.

Wśród ludności w wieku produkcyjnym również obserwuje się tendencję spadkową, liczba pracujących w 2019 roku jest o 7,4% niższa niż w 2014 roku.

Analizując rozkład populacji pracujących w wieku od 15 do 70 lat według płci (2014 – 2019) również ujawniono trend spadkowy. I tak np. w 2019 r. w porównaniu z 2014 r. liczba pracujących zmniejszyła się o 6,9% wśród mężczyzn i 8,1% wśród kobiet. Liczba pracujących mężczyzn w wieku produkcyjnym zmniejszyła się o 7,6%, kobiet – o 7,1%.

W latach 2014 – 2019 zmniejszyła się również liczba ludności pracującej według miejsca zamieszkania, choć w ostatnich latach 2018 – 2019 odnotowano niewielki wzrost. Tym samym w miastach, w porównaniu z najniższym wskaźnikiem zatrudnienia w 2017 r., liczba pracujących wzrosła w 2019 r. o 3,5%. Na wsi sytuacja jest identyczna, wzrost wyniósł 3,3%.

Wśród całej populacji największy spadek liczby pracujących obserwuje się wśród osób w wieku od 25 do 29 lat. W 2019 r. w porównaniu z 2014 r. ich liczba spadła o 24%. Najmniejszy spadek wystąpił w grupie osób w wieku 35-39 lat i wyniósł 0,74%. Liczba pracujących mężczyzn w wieku od 35 do 39 lat w 2019 r. wzrosła o 2,6% w stosunku do 2014 r. Pozostałe kategorie wiekowe mężczyzn wykazują tendencję spadkową, zwłaszcza mężczyźni w wieku od 25 do 29 lat, w których różnica między rokiem 2014 a 2019 wyniosła 22,1%. Wśród populacji kobiet szczególnie wyróżnić można pracujące w wieku od 50 do 59 lat, ponieważ jest to jedyna kategoria wiekowa, w której można zaobserwować niewielki wzrost o około 0,6% rocznie w ciągu ostatnich 5 lat.

Tym samym po przeanalizowaniu dynamiki liczby pracujących według grup wiekowych, płci i miejsca zamieszkania w latach 2014 – 2019 można stwierdzić, że na Ukrainie występuje tendencja do stopniowego wzrostu liczby pracujących ludności, po spadku w latach 2014 – 2017. Analiza wykazała, że problem na rynku pracy jest dość groźny. Ponadto ogólna tendencja w gospodarce kraju nie pozwala na podejmowanie radykalnych decyzji i rozwiązywanie zidentyfikowanych problemów w krótkim czasie, a to z kolei prowadzi do wzrostu bezrobocia.

W konsekwencji liczba ludności pracującej zmniejszyła się w latach 2014 – 2019, na tle tych negatywnych tendencji nastąpiły wahania liczby osób bezrobotnych i biernych zawodowo. Analizując wskaźniki zasobu pracy Ukrainy można stwierdzić, że skoro aktywność ekonomiczna ludności wykazuje tendencję spadkową, sytuacja na rynku pracy pogarsza się, a liczba pracujących maleje.

Potrzeba pracy dużej liczby bezrobotnych nie może być umieszczona w granicach prawa lub dostępnych legalnych form zatrudnienia. Potrzeba wykorzystania potencjału pracy pracownika zawsze znajduje ujście na rynku, zgodnie z ekonomicznym modelem popytu i podaży. Dlatego pracownicy zgadzają się na formy pracy, które są dostępne na rynku tu i teraz. Takie formy pracy nie zawsze są normatywnie zapisane w ustawodawstwie, ale są realne i skuteczne. W rezultacie powstała taka forma zatrudnienia, jak „niestandardowa” (alternatywna).

Pojęcia „standardowego” i „niestandardowego” zatrudnienia nie są powszechnie akceptowane, ale są coraz częściej stosowane przez badaczy i polityków.

Za „standardowe” zatrudnienie uważa się zwykle zatrudnienie w pełnym wymiarze czasu pracy na podstawie umowy o pracę na czas nieokreślony w przedsiębiorstwie lub organizacji, pod bezpośrednim nadzorem pracodawcy lub wyznaczonych przez niego kierowników. A wszelkie formy zatrudnienia odbiegające od opisanego standardu, w tym samozatrudnienie, można uznać za „niestandardowe”. Charakteryzując zatrudnienie niestandardowe należy wyróżnić i wyjaśnić jego formy, do których należą: zatrudnienie w niepełnym wymiarze czasu pracy, zatrudnienie na podstawie umów o pracę na czas określony, praca pożyczona (leasing, outsourcing, outstaffing), zatrudnienie zdalne (praca w domu), samozatrudnienie, samozatrudnienie praca zdalna, mobilna, wolny strzelec), zatrudnienie nieformalne, zatrudnienie sezonowe.

Wśród wskazanych form zatrudnienia niestandardowego zwracamy uwagę na szczególną – zdalną. Zdalna forma pracy nabiera w ostatnich latach rozpędu, a najpopularniejszą „innowacją” pracy zdalnej jest „freelance”. Freelancing to forma zatrudnienia, w której nie ma potrzeby oficjalnego podejmowania pracy i wykonywania poleceń kierownika w godzinach pracy, ponieważ w tym kierunku każdy sam decyduje z kim współpracować i jakie usługi oferować klientom [2].

Definicje „wolnego strzelca” różnią się w zależności od tego, kto je interpretuje, pracodawcy lub sami freelancerzy, ale łączy je to, co wspólne, jest to praca, której znaczenie polega na tym, że jakaś osoba lub firma zatrudnia osobę do wykonania określonego zadania, która może być w innym mieście, a nawet innym kraju.

Na profesjonalnym zagranicznym portalu „businessdictionary.com” można znaleźć następującą interpretację tego pojęcia: „Freelance to praca na podstawie umowy o pracę dla różnych firm, w przeciwieństwie do pracy jako pracownik dla jednej firmy [3]. Współcześni freelancerzy to niezależni, wysoko wykwalifikowani pracownicy, którzy nie są pracownikami organizacji, ale samodzielnie świadczą usługi klientom dzięki wykorzystaniu technologii informacyjno-komunikacyjnych, bez zawierania długoterminowej umowy o pracę.

Freelancerów można klasyfikować przede wszystkim ze względu na sposób komunikacji, ponieważ to sposób komunikacji całkowicie determinuje proces pracy freelancera – od znalezienia klienta do wysłania mu gotowego zamówienia i otrzymani Freelancerzy muszą mieć apetyt lub tolerancję na ryzyko, ponieważ niepewne, tymczasowe zatrudnienie nieuchronnie wiąże się z niepewnością. Niemiecki socjolog U. Beck, opierając się na teorii ryzyka, zauważa, że elastyczne i niestandardowe formy zatrudnienia faktycznie przenoszą na barki jednostek ryzyko, które wcześniej były podejmowane przez firmy i państwo. Jeśli

rozumiemy ubezpieczenie społeczne jako pewne gwarancje warunków zatrudnienia i dochodów, to jego poziom dla ogółu pracowników obniżył się. W tym sensie ryzyko ma destrukcyjny wpływ na życie człowieka, zaburzając ustalony rytm i stabilność finansową [4]. Dla freelancerów ryzyko jest zindywidualizowane. Po pierwsze, muszą samodzielnie planować swoją działalność zawodową, ponosić koszty szkoleń, rozwoju umiejętności zawodowych, a także ubezpieczenia i wsparcia materialnego. Po drugie, muszą stale szukać nowych zleceń i wypełniać „dziury", które powstają w harmonogramie pracy [5].

Jednym z najbardziej krytycznych problemów freelancera jest gwarancja zatrudnienia i wynagrodzenia. Główną wadą freelancingu jest niestabilność pracy. Osoba nie jest pewna swoich dochodów, poświęca dużo czasu i zasobów psychologicznych, aby wykreować swój wizerunek na giełdzie freelancerów, znaleźć pracodawcę, zapewnić godziwe dochody, a przede wszystkim mieć gwarancje otrzymania zapłaty za pracę wykonane.

Freelancer jest pozbawiony tak ważnego elementu „dobrej pracy" dla każdego zatrudnionego pracownika, jakim jest pakiet socjalny, który w zależności od firmy obejmuje coroczne płatne urlopy i zwolnienia chorobowe, bezpłatne ubezpieczenie, usługi medyczne itp. Biorąc pod uwagę fakt, że większość umów między freelancerami a klientami ma charakter nieformalny, działalność zawodowa niezależnych pracowników nie podlega opodatkowaniu socjalnemu. Z tego powodu freelancer jest zmuszony samodzielnie martwić się o ubezpieczenie społeczne i emeryturę.

Freelancerzy muszą albo pogodzić się z faktem, że są pracownikami społecznie wrażliwymi, albo sami bronić swoich praw. Ponadto problem ubezpieczeń społecznych i emerytur nie jest jedyną trudnością finansową, z jaką mogą borykać się freelancerzy. W dobie rozpowszechnienia usług kredytowych samodzielni pracownicy znajdują się w niekorzystnych warunkach, gdyż z reguły nie mogą udokumentować uzyskiwanych dochodów itp.. Nie wykluczone jest również wysokie ryzyko i możliwość oszustwa ze strony klienta – freelancing, jak każda inna forma darmowego zatrudnienia, niezmiennie wiąże się z dużym prawdopodobieństwem zachowania oportunistycznego ze strony kontrahenta – klienta.

Dlatego też, analizując działania freelancerów, mamy możliwość określenia ryzyk ich działalności, które dzielą się właściwie na cztery sfery życia – finansową, prawną, społeczną i osobistą. Możliwość oficjalnej pracy jako freelancer w przyszłości pomoże państwu zatrzymać w kraju wysoko wykwalifikowaną kadrę, zmniejszyć liczbę bezrobotnych i zwiększyć dopływ podatków, co z kolei otworzy możliwości aktywnego rozwoju sytuację gospodarczą w kraju.

Metodologia i metody badawcze. Badanie przeprowadzono na podstawie największej ukraińskiej giełdy freelancerów „Freelancehunt" w 2020 roku, metodą ankiety internetowej freelancerów zarejestrowanych na giełdzie. Próba składała się z 350 użytkowników serwisu „Freelancehunt". Głównymi parametrami selekcji były płeć, wiek, miejsce zamieszkania, stan cywilny oraz poziom wykształcenia. Respondenci podzielili się następująco: 60% mężczyzn i 40% kobiet w wieku od 18 do 54 lat. Według miejsca zamieszkania – 38,6% mieszka w centrum województwa, 47,4% – w mieście lub na wsi, a 14% na wsi. Wśród respondentów 45,6% to osoby zamężne i tyle samo stanu wolnego, 8,8% to osoby rozwiedzione. Podział według poziomu wykształcenia: wykształcenie wyższe – 71,9%, wykształcenie cząstkowe – 8,8%, średnie specjalne – 12,3%, wykształcenie zawodowe i techniczne – 1,8%, wykształcenie średnie ogółem – 3,5%, wykształcenie podstawowe ogółem lub niepełne średnie – 1,8 %. Współczesnego freelancera można więc sobie wyobrazić jako osobę w wieku 30 – 35 lat z wyższym wykształceniem, która mieszka głównie w mieście lub na wsi.

Wyniki główne. Dziś freelancing zyskuje coraz większą popularność, duża liczba osób woli samodzielną pracę na zlecenie. Głównymi powodami rozprzestrzeniania się freelancingu jest chęć uzyskania dodatkowego dochodu przez osoby już zatrudnione itp. Nie da się jednak jednoznacznie ocenić rozwoju freelancingu, ponieważ ma on również negatywne strony, w tym społeczne ryzyka i niebezpieczeństwa. W celu opisania uzyskanych danych badawczych wskazane jest opisanie wyników poprzez podzielenie ich na bloki tematyczne.

Jeśli chodzi o świadomość respondentów na temat działalności na własny rachunek, okazało się, że 62,7% ankietowanych uznało swoje zatrudnienie za niestandardowe, 13,6% było zatrudnionych przez najem, a 23,7% uważało, że ich zatrudnienie należy do obu form. Jednocześnie liczba godzin pracy tygodniowo dla 50% freelancerów wynosi 35 lub więcej, a 41,4% ankietowanych ma mniej niż 35 godzin tygodniowo. Rozkład odpowiedzi dotyczących form zatrudnienia przedstawia tabela.

Tabela 1.

Dystrybucja form zatrudnienia, (%)

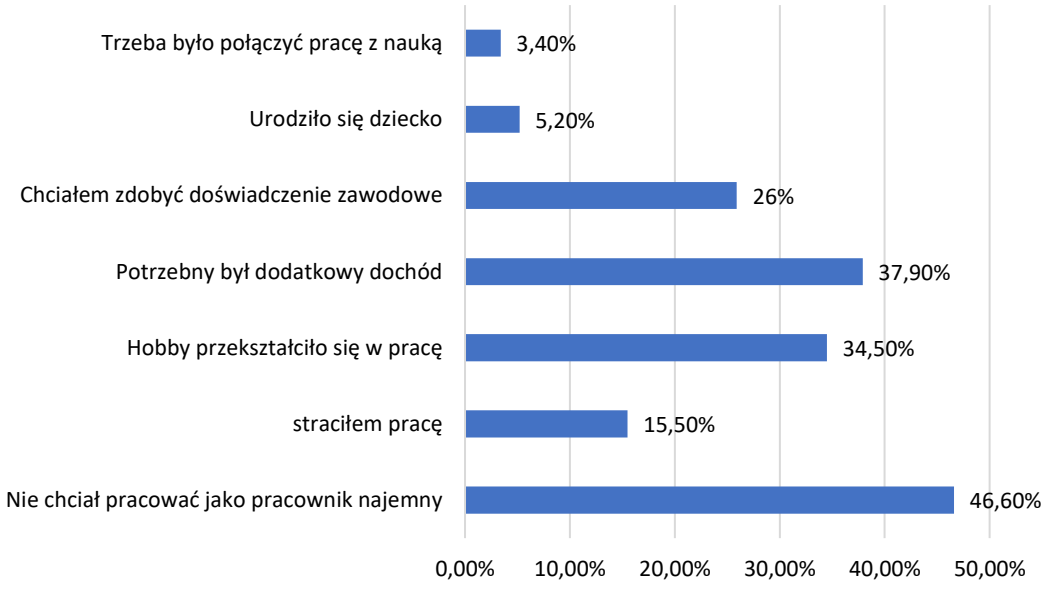
Rozkład form trudności	*%*
Zatrudnienie zdalne	78,0
Zatrudnienie nieformalne lub nierejestrowane	8,5
Niepełne zatrudnienie	3,4
Zatrudnienie na warunkach umowy o pracę na czas określony	5,1
Pożyczona praca	1,7
Inni	3,3

Respondenci (90%) rozumieją różnicę między pracą zdalną a freelancingiem. Praca zdalna jest definiowana przez respondentów jako praca dla jednej firmy, ale niezwiązana z biurem, a freelance jako ciągłe poszukiwanie doraźnych projektów i ich realizacja. Ankietowani nie spotkali się z pojęciem e-lance. Respondenci (87,9%) określają swoją formę zatrudnienia jako wolny strzelec. Wśród osób, które określiły się jako freelancerzy, 46% wskazało niechęć do pracy najemnej jako przyczynę zmiany formy zatrudnienia, prawie 38% przeszło na freelancing w celu dodatkowego zarobku.

Czynniki przyczyniające się do przejścia na freelancing przedstawiono na poniższym wykresie.

Histogram 1.

Powody, dla których respondenci wybrali freelancing, (%)



Najczęstsze dziedziny działalności freelancerów to: projektowanie i grafika (22,4%), tworzenie i utrzymanie stron internetowych (17,2%), copywriting (15,5%), programowanie (13,8%) oraz reklama i marketing (8,6%). 22,5% respondentów wybrało inną odpowiedź, w tym QA (testowanie), programowanie pełnego spektrum, wyszukiwanie informacji i zarządzanie treścią.

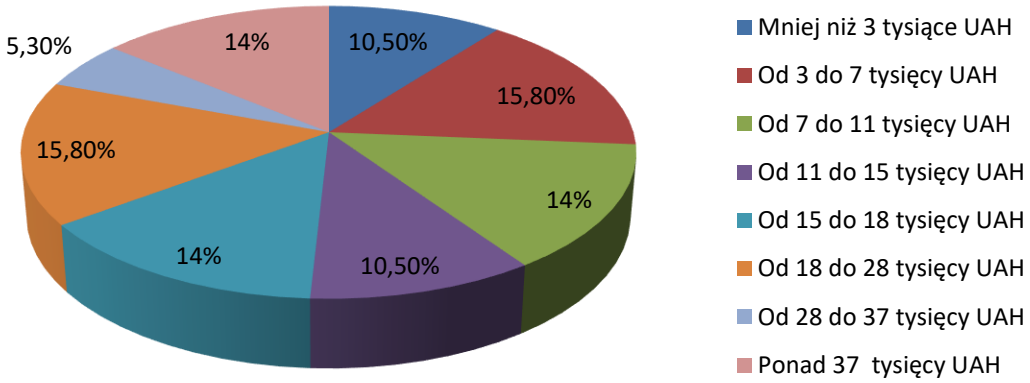
Freelancerzy do efektywnej pracy potrzebują ciągłego poszukiwania klientów, 91,4% respondentów znajduje klientów poprzez giełdy freelancerów, 75,9% współpracuje ze stałymi klientami, 66,5% freelancerów zostało poleconych przez poprzednich klientów.

Freelancing może być zarówno główną formą zatrudnienia, jak i dodatkowym źródłem dochodu. Według odpowiedzi respondentów 62,1% pracuje wyłącznie jako freelancer, natomiast 37,9% łączy freelancing ze studiami, opieką nad dziećmi i własnym biznesem.

Wynik oszacowania przeciętnej wielkości miesięcznego dochodu przez respondentów przedstawia poniższy wykres:

Wykres 1.

Ocenianie respondentów dotyczące średnich miesięcznych dochodów (%)



Ryzyko działalności niezależnej

Ankietowani jako najczęstsze ryzyka wskazywali: niestabilność dochodów (51,7%), opóźnienie w wypłacie wynagrodzenia za pracę (80%), brak pakietu socjalnego (74%), zmianę umów dotyczących wykonywania pracy i skrócenie terminów (61,8%) oraz częściowe nieuiszczanie opłat (45,5%). Tylko 3,6% respondentów nie spotkało się z żadnym z wymienionych zagrożeń.

Sytuacje niewywiązywania się klienta z warunków umowy respondenci rozwiązywali na kilka sposobów: 55,2% poprzez negocjacje z klientem, 32,8% angażując administrację niezależnej giełdy. Sytuacja nie została rozwiązana u 32,8% freelancerów.

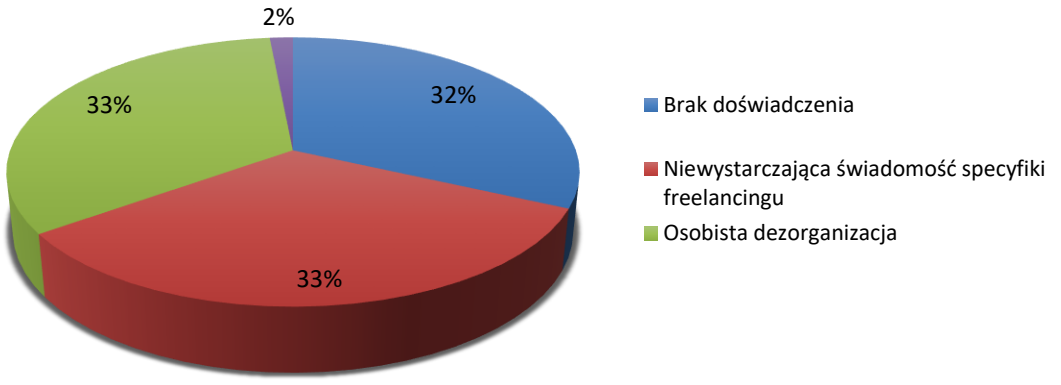
Ponieważ praca freelancingu jest kapryśna, pracownicy mogą mieć niewielką liczbę zamówień lub więcej, niż mogliby obsłużyć. Potwierdzają to odpowiedzi respondentów, gdyż 82,5% freelancerów przyznało, że ich praca nie jest zorganizowana. Dodatkowo 87,7% potwierdziło, że pracuje nawet w weekendy i święta, a tylko 5,3% freelancerów potwierdziło coś przeciwnego.

Odnośnie stanu psychicznego freelancerów 35,1% respondentów odpowiedziało, że odczuwa emocjonalne niezadowolenie z pracy, a wśród powodów wymienia monotonię pracy (46,2%), nieciekawe projekty (46,2%), nieregularny grafik i dużą liczbę zlecenia (46,2%) oraz konieczność wykonania pracy w krótkim czasie (34,6%).

Po określeniu głównych zagrożeń zbadano przyczyny powstawania sytuacji ryzykownych w pracy freelancerów. Odpowiedzi respondentów przedstawiono na wykresie 2. Niewystarczająca świadomość specyfiki freelancingu oraz dezorganizacja osobista zostały zidentyfikowane jako dwa główne czynniki ryzyka.

Wykres 2.

Przyczyny sytuacji zagrożenia (%)



Identyfikacja głównych zagrożeń i niebezpieczeństw związanych z freelancingiem wymagała określenia sposobów ich przezwyciężenia. Zgodnie z sugestiami respondentów można wyróżnić następujące rekomendacje:

1. Wdrożenie mechanizmów ochrony przed pozbawionymi skrupułów klientami na giełdach freelancerów.

2. Państwowa regulacja freelancingu.
3. Oficjalnie opracować projekt.
4. Zwiększyć swoje portfolio i rozwijać swoje umiejętności.

Uzyskane wyniki badania pozwalają również na przedstawienie następujących zaleceń mających na celu organizację i uregulowanie działalności freelancerów na szczeblu państwowym. Po pierwsze, konieczne jest stworzenie sprzyjających warunków do legalizacji pracy freelancerów. Zalecenie to można wdrożyć poprzez zmianę dokumentów regulacyjnych. Po drugie, konieczne jest zebranie pełnych informacji na temat freelancingu, które obejmowałyby podstawową wiedzę dotyczącą zalet i wad, sposobów oficjalnej rejestracji, ulg podatkowych i innych możliwości pomocy ze strony państwa. Dzięki temu możliwe jest zmniejszenie poziomu bezrobocia i zwiększenie poziomu wpływów podatkowych.

Po trzecie, rozszerzenie dostępu do Internetu, co wiąże się z rozbudową infrastruktury informacyjno-komunikacyjnej oraz organizacją pogłębionych studiów z zakresu obsługi komputera.

Po czwarte, promowanie rozwoju systemów płatności elektronicznych, podpisów elektronicznych i usprawnienia elektronicznego obiegu dokumentów. Można to osiągnąć poprzez wprowadzenie zmian i doprecyzowań do aktów prawnych dotyczących uproszczenia obiegu dokumentów papierowych oraz dokumentów opatrzonych podpisem elektronicznym.

I ostatnia – zapewnienie zgodności efektów kształcenia ze zmieniającymi się wymaganiami pracowników i pracodawców. Na przykład poprzez organizację dodatkowych kursów edukacyjnych z zakresu technologii informatycznych oraz prowadzenie seminariów na temat specyfiki pracy freelancera. W ten sposób możliwe jest rozwiązanie problemu braku wykwalifikowanej kadry i poszerzenie możliwości zatrudnienia osób niepełnosprawnych.

Dokonywanie zmian na poziomie legislacyjnym pozwoli niezależnym giełdom pełnić rolę gwaranta realizacji projektów.

Wniosek. Transformacyjne procesy społeczne i gospodarcze, a także postęp naukowy i technologiczny, informatyzacja i cyfryzacja mają ogromny wpływ na współczesny rynek pracy Ukrainy. Pod wpływem tych wszystkich czynników zwiększa się udział pracy nieformalnej, co jeszcze kilkadziesiąt lat temu nie było uważane za obiecujące. Obecnie istnieje wiele odmian pracy nieformalnej, ale najbardziej popularna jest praca zdalna, czyli freelancing. Ta forma zatrudnienia nie jest dziś dostatecznie zbadana. Charakteryzując zatrudnienie niestandardowe, zdefiniowano następujące formy: zatrudnienie w niepełnym wymiarze czasu pracy, zatrudnienie na podstawie umów o pracę na czas określony, praca pożyczona

(leasing, outsourcing, outstaffing), praca zdalna (praca w domu, samozatrudnienie, samodzielne zdalne praca, mobilność, wolny zawód), zatrudnienie nieformalne, zatrudnienie sezonowe. Każda z tych form ma swoje własne cechy, ale są one bardzo podobne i mogą zawierać się w sobie. Dlatego na tej liście wyróżniono freelancera, jako zbiór cech wszystkich wymienionych powyżej form.

Freelancing jest uważany za formę zatrudnienia, jednak freelancing można tłumaczyć jako rodzaj działalności człowieka, prezentowany w formie samozatrudnienia, które przeradza się w świadczenie usług, najczęściej na odległość, w oparciu o umowę na określony czas prac między klientem a wykonawcą, personelem organizacji. Współcześni freelancerzy dzielą się na klasycznych freelancerów, e-lancerów i formę mieszaną.

Wśród zagrożeń freelancingu wskazywano na niestabilność pracy, brak gwarancji wynagrodzenia, pakietu socjalnego, konieczność samodzielnego dbania o swoje bezpieczeństwo socjalne i emerytalne i inne. Pełna lista ryzyk pozwoliła pogrupować je na finansowe, prawne, społeczne i osobiste.

Podsumowując, zauważamy, że freelancerzy rozróżniają zatrudnienie zdalne i freelance (e-lance). Prawie 47% respondentów określiło, że przejście na freelancing było spowodowane niechęcią do pracy najemnej. Wśród zagrożeń jednym z najbardziej rozpowszechnionych jest niestabilność dochodów (wskaźnik ekonomiczny), a wśród społecznych wyróżnia się brak pakietu socjalnego – ubezpieczenia zdrowotnego, zwolnień lekarskich, pomocy materialnej itp. Freelancerzy jako przyczyny zagrożeń wskazywali na dezorganizację osobistą i brak świadomości specyfiki działalności, brak doświadczenia oraz brak regulacji prawnych. Sposoby przezwyciężania ryzyka i niebezpieczeństw dzielą się właściwie na 3 obszary: regulacja legislacji, zwiększenie wiarygodności niezależnych giełd oraz osobista kontrola działań. Również osobno respondenci zauważyli, że rejestracja ich działalności jako jednoosobowej działalności gospodarczej przyczynia się do zmniejszenia ryzyk społecznych.

Wypracowane rekomendacje regulacji państwowych przyczynią się do zwiększenia liczby freelancerów, co z kolei wpłynie na zmniejszenie cienia gospodarki narodowej, uzyskanie dodatkowych wpływów podatkowych, zwiększenie wysokości finansowania projektów społecznych oraz innowacyjny rozwój gospodarki narodowej.

Dalsza perspektywa badawcza. Badania mają duże znaczenie praktyczne, ponieważ mogą posłużyć do dalszych badań i opracowania pełnego zestawu zaleceń eliminujących ryzyka i niebezpieczeństwa związane z freelancingiem.

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13. PROFESSIONAL ONLINE TRAINING OF SPECIALISTS FOR THE DOMESTIC TOURISM AND RECREATION INDUSTRY

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Introduction. The solution of the problem of professional training of specialists for the tourism and recreation industry is carried out in the current system of continuous general and professional education. The training of specialists in the field of tourism is entering qualitatively new frontiers in developed countries. As a goal of tourism education, it is necessary to approve its quality and effectiveness in order to guarantee quality and efficiency in the tourism and recreation industry. Increasing competition among travel agencies and new requirements for specialists in this field entail a change in the requirements for the training of these specialists in tourism universities. The main problem of higher

education is the excessive academic nature of specialized higher education with a clear lack of practical skills and knowledge among graduates. The training of personnel does not fully meet the needs of the tourism industry, both quantitatively and qualitatively.

Curricula do not meet the real needs of tourism, as they are not focused on practical work. This also applies to textbooks, manuals compiled by teachers who do not have practical experience in the tourism industry. Books written by tourism practitioners, as a rule, sometimes reflect particulars based on personal experience, and only impose standard teaching approaches. Modern tourism education lacks an integrated approach. The structure, content and organization of professional training of future tourism specialists do not fully ensure the formation of competencies aimed at a high level of professional activity. Tourism disciplines in universities are taught, as a rule, either by teachers who do not have experience in the tourism sector, or by practitioners who do not have a pedagogical education and are not competent in pedagogy. A serious mistake that such teachers often make is ignoring pedagogical problems when designing new programs.

The interaction of pedagogical science and practice is a problem that in modern pedagogy is of particular importance due to the fact that: the logic of science and the logic of the practical activities of teachers often diverge, there is no mutual understanding between theorists and practitioners; Pedagogy sometimes goes inward, serving the needs of its own development; there is no strictly thought-out system for introducing scientific developments into practice.

To overcome such phenomena is the task of both scientists and practitioners, and tourism science is no exception. Formation of the content of professional tourism education is the most important scientific problem of professional training of tourism and recreation specialists. The successful activity of a modern university largely depends on how it focuses on the real needs of society and the needs of the market. The actual task of higher education is to build such a training system that would provide future specialists not only with a set of necessary special competencies, but also give skills for solving creative problems, form the creative abilities of students. Only by applying innovative teaching methods, one can hope for sure success in training truly competitive and sought-after specialists in the field of tourism and recreation.

Literature review. Incredible rapid development of the domestic tourism industry in specific regions and in the country as a whole in the pre-war period led to the emergence of professions in universities: specialist in socio-cultural service, recreational geography, tourism studies [1, p. 22]. Undoubtedly, the most important condition for the successful development of any industry, and tourism in particular, are professionally trained, highly qualified personnel. Ukraine is

characterized by a variety of tourist and recreational resources, rich historical and cultural heritage, good transport infrastructure. All these factors every year attract more and more tourists and make tourism a promising industry in the post-war stage of economic development. In addition, in the pre-war years there was an increase in the level of income and wealth of the population, the complexity of the structure of needs, which led to the expansion of the tourism sector. Thus, new travel destinations appeared, and the number of tourist enterprises increased. This, in turn, entailed a flow into the sphere of tourism of people focused on quick high profits, but with no special professional training. The modern training system for specialists in tourism is focused on constant development, the need to improve and the desire to qualitatively improve the services offered. A distinctive feature of tourist specialties is the impossibility to work within one narrow field. In tourism, as we know, there is the so-called «carousel of professions».

This term denotes that the specificity of professional activity of a specialist in tourism accentuates and actualizes the need to be ready to switch to different fields of activity, to be able to adapt quickly to the changes demanded by society. In this connection, in the post-war period there is a serious task of training highly qualified specialists for the tourism industry and providing quality professional tourism education [12, p. 142]. This requires already today the system of professional tourism education to use expediently and productively the world experience, flexibly modify traditional teaching methods and adapt modern educational technologies, which will facilitate students' mastery of necessary general cultural and professional competences.

The issues of improving the quality of training of specialists in the tourism and recreation industry have been the subject of many studies. The circle of scientific interests of scientists includes theoretical and methodological foundations, content, structure, optimization of training of specialists for tourism and recreation business (D. Gurova, S. Bulatov, M. Belikova, V. Pruss, others) [1; 8; 9]; pedagogy, quality of education, development and advanced training of personnel (O. Kovalenko, A. Kuzminsky, S. Vitvitska) [3; 5; 14]; practice-oriented content of tourism education (M. Menyaev, A. Kuzminov, A. Vindyuk) [7; 11; 12; 13]; innovations and information technologies in education (V. Zaitseva, S. Tsviliy, G. Bubley, D. Vasylychev, O. Zhilko, N. Kuznetsova, T. Kuklina, others) [4; 6; 10; 15]. However, not enough research has been conducted recently on the organization of online education in the professional training of specialists in the tourism and recreation industry.

Results. The strategic goal of training professionals in the tourism and recreation industry is to create conditions for the formation and development of a

certain type of personality: open and energetic, diplomatic and creative, contact and at ease feeling in a different social environment. Professionally important qualities of a future specialist are personal characteristics that ensure maximum efficiency and success in the profession [13, p. 164]. The analysis of literary sources has shown that also allocate professionally caused personal qualities which are shown under the influence of professional activity. As a rule, they are combined into the following groups: 1) moral-volitional (respect for people, humanity, tactfulness, citizenship, tolerance, honesty, endurance, stress resistance, poise, energy, self-confidence, purposefulness, perseverance, organization, demanding, discipline, determination, etc.); 2) intellectual (professional competence, erudition, analytics, flexibility, judgment, good learning ability, critical thinking, etc.); 3) communicative (sociability, contactiveness, ability to listen, ability to convince, a sense of humor, etc.); 4) organizational (activity, creativity, initiative, objectivity, responsibility, purposefulness, efficiency, independence, etc.).

During the analysis of literature and survey data of students studying at the specialties 241 Hotel and Restaurant Business and 242 Tourism and Recreation at the National University «Zaporizhzhia Polytechnic», personal and professional qualities of a specialist in tourism and recreation were identified. On the basis of existing professionograms, qualification characteristics and the list of competencies, students were offered to choose 8–10, in their opinion, the most important for the future specialist of tourism and recreation industry from 20 personal and 20 professional qualities and evaluate the significance of each quality on a 10-point scale. The students identified the following as the main personally important qualities: self-confidence, communication skills, stress resistance, responsibility, pleasant appearance, politeness, initiative, and erudition. Among professionally important qualities necessary for a specialist in tourism, the respondents mainly mentioned the following: higher education in tourism, knowledge of geography, knowledge of technology of tourism industry organization, knowledge of information technologies, knowledge of foreign languages, knowledge of the legal basis of tourism activity, knowledge of psychology, the ability to work with tourism documentation, work experience in the tourism industry.

Students' assessment of the importance of personal qualities showed the following results (names of qualities with average scores). Personal qualities: 1) sociability (9,2); 2) stress-resistance (9); 3) responsibility (8,7); 4) self-confidence (8,6); 5) pleasant appearance (8,1); 6) politeness (8); 7) initiative (7,2); 8) erudition (7). Professional qualities: 1) higher education in tourism (9,3); 2) knowledge of tourism industry organization technology (9,3); 3) knowledge of geography (9,1);

4) IT skills (8,6); 5) knowledge of foreign languages (8); 6) knowledge of the legal basis of tourism activity (7,1); 7) knowledge of basic psychology (7); 8) knowledge of tourism documentation (5,8); 9) work experience in tourism industry (5,3).

As for personal qualities, the first three ranks are occupied by communication skills, stress resistance, and responsibility; the last places are occupied by initiative and erudition. However, the scoring of all eight of these qualities did not differ significantly. Thus, communicability was assessed at an average of 9,2 points, and erudition, which stands in last place, – at 7. Thus, the students attached sufficiently serious importance to all the selected qualities.

The results of the research have shown that the students in the self-assessment most of all put the presence of higher tourism education, knowledge of tourism industry organization technology and the basics of psychology, which is most likely due to the content of the received at this stage of professional education, but their experience in the travel agency is in last place, as the professional activity of many of the respondents at this stage of training was limited to practice and had an exploratory nature. Thus, the students receiving higher tourism education are aware of its importance for future professional activity, as well as understand that without special knowledge and skills it is impossible to become a highly qualified specialist in the tourism and recreation industry on the basis of educational design technology.

Today the sphere of tourism and recreation is one of the most promising and fastest growing sectors of the global economy. Thousands of people daily use the services of enterprises that offer reception, accommodation and entertainment for all kinds of tourists, from infants to citizens of retirement age. But in the face of fierce competition and the rapid development of the industry, there is an acute shortage of qualified personnel with higher education in tourism. It does not seem possible to retrain personnel, tearing them away from production [6, p. 116]. And it does not matter whether it will be full-time training with daily attendance, part-time with absence of the employee two days a week or standard part-time when one has to make concessions at least twice a year. It's quite another matter to do distance learning by correspondence.

Distance learning is the interaction of a teacher and students with each other at a distance, reflecting all the inherent components of the educational process (goals, content, methods, organizational forms, teaching tools) and implemented by specific means of Internet technologies or other means, providing interactivity. Distance learning is an independent form of learning, information technology in distance learning is the leading tool.

Today promising is interactive interaction with the student through information communication networks, of which the environment of Internet users is massively

distinguished [4, p. 219]. In Ukraine since 2003, business structures in the educational environment are developing standards for distance interactive learning, which involve the widespread use of Internet technologies. The introduction of standards contributes to both the deepening of the requirements for the composition of distance learning and the requirements for software. At present, there are both pilot projects and domestic software developments that have proven themselves at the market of educational services, which are widely enough used by domestic and foreign companies providing distance learning services [15, p. 204].
Distance learning allows: 1) reduce the cost of training (no costs for rental of premises, travel to the place of study, both students and teachers); 2) conduct training of a large number of people; 3) improve the quality of training through the use of modern tools, extensive electronic libraries; 4) create a unified educational environment (especially relevant for corporate training) [5; 7; 14].

It is hypothesized that the post-war trend in the professional online training of specialists in the domestic tourism and recreation industry will be the creation of the Internet Institute and its structures on a single standard Internet platform. It is logical that the main activity of the Internet Institute will be the training of students in higher professional education programs. There will also be a demand for retraining of specialists (courses to improve professional knowledge for new tasks with a duration of 500 hours) and advanced training (training in areas of professional activity within the framework of an already acquired specialty or qualification) of personnel.

The main objective of the Internet Institute is to create and maintain the use of innovative methods in education, because society and the state have a need for qualified specialists, whose professional training implies obtaining a high-quality comprehensive higher education. Online education in this Internet Institute, which it offers, will open up additional opportunities for professional and cultural development.

The technology involves training each student via the Internet in real time (on-line learning). Each student is given a personal identifier: login and password. With the necessary data, the future holder of higher education can decide for himself/herself at what time of the day and night he/she should carry out the educational program on specialty 242 «Tourism and Recreation». Annual reporting will not be tied to the standard sessions twice a year, and making an individual curriculum for each applicant will stabilize the load on the student and give the opportunity to get only the knowledge he personally needs in his chosen profile.
The use of Internet technologies for higher education training is a real panacea in the post-war period for the tourism and recreation sector, which is predicted to experience a shortage of these professionals. The technology of providing

educational services fully allows you to fill gaps in knowledge, improve the cultural level, not to have the inconvenience of lack of time and most convenient for everyone to find time to work and study. The ability to comfortably correlate work, study and personal time helps to meet the staffing needs of the tourism and recreation industry to provide qualified workers with appropriate higher education, and the employees themselves do not have to choose either «study or work».

The problem of matching the qualifications of graduates of educational institutions, training staff for the tourism and recreation industry, the requirements of employers in the post-war conditions of business recovery in Ukraine will become quite acute [8]. An adequate response to the requirements of the labor market in terms of providing the tourism sector and its infrastructure with young, active, but highly professional personnel is a truly practice-oriented construction of the training process of future employees of the tourism and recreation industry and the direct participation of its representatives in the formation of the demand for graduate competence and in its training [11, p. 101]. Moreover, modern requirements of the state to the education system clearly orient higher education institutions to it. In this connection, the main tasks of the post-war stage of integration of tourism education and tourism and recreation industry as a sphere of professional application of competences mastered in an educational institution are to eliminate the need to «finish training» graduates for the needs of real business and to replace theoretical, poorly applied in practice knowledge with really useful and necessary skills and abilities when creating, promoting and implementing a tourist product.

In our opinion, the solution to the abovementioned problem lies in the following: combination of serious theoretical professional training and systematic mastering of practical skills throughout the training period in constant contact with representatives of tourist enterprises. Only this approach can ensure the necessary quality of training of human resources for tourism and recreation. In addition, in developing the educational online program and its content in the form of disciplines and/or modules, it is necessary to move away from the traditional presentation of the material. It should be borne in mind that the theoretical knowledge to be acquired by university tourism students cannot be detached from the professional sphere [2; 8; 9]. Any online discipline included in the curriculum should be based on factual or situational material directly related to the tourism and recreation industry as the future sphere of the graduate's professional interests. This will exclude the situation when a student or a university graduate, possessing a vast body of knowledge from different areas of natural sciences and humanities, traditionally associated with tourism and recreation, is not able to generalize them and refract their use in professional and practical activities.

Thus, properly focused theoretical online training of the future professional of the tourism and recreation industry is needed:

– for mastering the basic knowledge of a worker of the tourism and recreation industry in order to form an intellectual platform of development and consolidation of practical skills and abilities;

– to understand and comprehend the accumulated Ukrainian and foreign experience of tourism and recreation, as a prerequisite for professional self-orientation and understanding the social and economic importance of the chosen profession;

– for the formation and development of the ability to self-education and improve their professional and intellectual level.

The key and quite innovative for the system of tourism education in Ukraine ideas implemented in the post-war period by the Internet Institute for training for the tourism and recreation industry should be the following.

1. Any educational online program of tourism profile should necessarily include general system competencies, mastering which provides training psychologically and professionally flexible «communicator» consumer and supplier of services in tourism and recreation, such as the ability to organize the communication process with the consumer services, willingness to innovate in the professional sphere, mastery of sales technology, etc.

2. The share of purely theoretical training should be reasonably minimized by focusing on key knowledge and self-learning, while reducing the number of special disciplines should not mean reducing the amount of credits to master them. The sequence and content of special tourism disciplines and disciplines aimed at mastering system-wide competences should be built on the principle of continuity and development of knowledge, skills and abilities throughout the training.

3. Conditions for obtaining theoretical knowledge and practical skills should be as close as possible to the real situation in the tourism and recreation industry. This setting can be implemented in two environments:

– real environment – basic departments and bases of passing online practice at the leading enterprises of industry components of the tourism industry,

– simulation environment – specialized laboratory base within the university.

It is necessary to note the pronounced specificity of the organization of practical online training for travel agencies, because not all approaches are applicable in both the first and the second case.

The existing experience of attempts to gain serious professional skills of students studying on the educational programs of 242 Tourism and Recreation, during the academic and industrial practice in the traditional form – at the existing enterprises, often does not give the desired effect. If a student does not have a clear idea of all the production duties that he or she will have to perform during the internship at a

travel agency (travel agent or tour operator), does not fully know the specifics of a particular type of activity, then it is almost impossible to get these online skills at the enterprise, because most travel agents and even more so tour operators cannot afford to distract the staff from their direct responsibilities in order to train interns.

A more productive method is to combine online practice with field internships in high seasons, because the student gets the opportunity to be in a real professional environment for quite a long period and practice certain professional skills. However, with this approach, the student is usually involved in a fairly narrow set of functions and does not get the full range of practical skills.

The correct organization and development of «simulation environment» of training provides an opportunity to solve the problem of material and technical base of passing online practice and full-fledged mastering of the basic professional skills [10]. Thus, for example, within the framework of the Internet Institute on the basis of specialized laboratories to create «quasi-enterprise» of tour operator profile: laboratory of complex development of tourism and recreation clusters, laboratory of quality management in tourism and recreation, polyvalent multimedia center of tourism and recreation and multitraining laboratory of business administration. The aforementioned «quasi-enterprise» will allow organizing a full cycle of online practice systematically during a semester in parallel with the theoretical online training.

However, the availability of specialized facilities is not the only condition for the implementation of practice-oriented online training. It is possible only if the practice involves an active employee of the tourism and recreation industry at least mid-level manager, who, continuing to conduct practical activities, works with students in a «quasi-tour firm» the entire range of necessary skills according to the real requirements of the current enterprise to its employees, ranging from the ability to dress according to dress code and organize the workplace in accordance with the corporate style, to work with specialized software products and systems, etc.

The minimum list of professional skills mastered by students with this approach to practice includes: 1) skills of creating a tourist product, including the ability to select accommodation services, transportation, insurance, visa services, host services; 2) skills of promotion of the tourist product in the tourist market; 3) practical skills for a travel agency manager in B2C segment: personal client management, booking, excursions selection, working with documents; 4) practical skills for a B2B tour operator manager: signing contracts, negotiating with partners, participating in fairs and seminars, ability to promptly solve various problems, etc.

As part of the «quasi-enterprise» can also be simulated working conditions of the working unit of the travel agency, allowing during the practice to simulate, close to the real, psychological environment and functional distribution of job responsibilities in the implementation of real technological processes of the tour operator and travel agency firms.

It is logical to assume that the acquired skills will be quite sufficient for a graduate of the specialty 242 Tourism and Recreation upon graduation without problems entered the labor market and was in demand by tourism enterprises in the position of Travel Manager (destination manager), Sale Manager (sales manager), Product Manager and Marketing Manager (marketing profile specialists). If such an approach to practical training is reinforced by highly specialized programs of additional online education and specialized internships, the value of a tourism graduate on the labor market increases several times over. The level of competence will allow an employer to consider such a candidate for higher job levels when hiring.

There are still a number of problems that need to be solved for the successful implementation of a truly practice-oriented online education of higher education applicants specialty 242 Tourism and Recreation, among them:

– unpreparedness of higher education institutions for the new online format of conducting educational activities;

– the complexity of optimizing training schedules and plans for various educational programs, the need for which is due to the requirement to improve the efficiency of universities in the new post-war economic situation;

– inconsistency on the part of the tourism industry enterprises, expressing dissatisfaction with the competence level of graduates and at the same time actively withdrawing from real participation in the development and implementation of relevant educational online programs,

– lack of normative and documentary support for the coordination of graduates' competencies and requirements for the functionality of specific categories of personnel in the tourism and recreation industry.

Thus, at the initial stage of the post-war transition of the online training system with higher education for the tourism and recreation industry to practice-oriented training for the full implementation of this idea requires a number of conditions:

– development and approval of professional standards for tourism and recreation industry workers;

– sufficient courage of higher educational institutions to abandon the usual principles and methods of organizing the educational process;

– active and effective desire of business to engage in online training of qualified personnel for their own enterprises.

Conclusion. In the post-war period, there will be a transformation of the worker's competence model, and the most dynamic changes will affect the professional component of this model: the level of knowledge, skills, proficiency and accumulated experience in labor activity. With the significant dismissal of workers from tourism and recreation during the war, nevertheless, the level of competencies should constantly increase. High qualifications and a wide range of competencies become the most important weapon of competition. It is understood that a professionally mobile worker will be the most competitive on the market. The spread of a labor force capable of creative work in the various professional areas of hospitality is only possible if the working population of all ages, higher and higher quality educational and professional training is achieved. The introduction of broad-based online training in our country should be considered, along with the reduction of unskilled labor as one of the main conditions for the country's economy to enter a new stage of development. The development of the scientific base of personnel training, creative work to a large extent will become the main content of the activities of higher professional level employees.

Online training and retraining programs are designed to become the basic vector of active position in the labor market, because the post-war prospects for employment of professionals in the tourism and recreation industry, especially in conditions of structural adjustment, are associated with the development of human resources: high-quality online education and high qualifications, will reliably protect workers in this industry from unemployment.

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