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## MODERN TECHNOLOGIES FOR SOLVING ACTUAL SOCIETY'S PROBLEMS

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## MODERN TECHNOLOGIES FOR SOLVING ACTUAL SOCIETY'S PROBLEMS

Edited by Oleksandr Nestorenko and Iryna Ostopolets

Publishing House of University of Technology, Katowice, 2022

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ISBN 978-83-965554-4-1 DOI: 10.54264/M016

Editorial compilation Publishing House of University of Technology, Katowice 43 Rolna str. 43 40-555 Katowice, Poland tel. 32 202 50 34, fax: 32 252 28 75

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### **3.2. WAYS OF SOCIO-PSYCHOLOGICAL INTEGRATION INTO SOCIAL LIFE OF PERSONS WITH DISABILITIES: EUROPEAN EMPLOYMENT EXPERIENCE**

The problem of the people's integration with disability into public life has been existing throughout human existence. At the same time, despite the significance of this problem, it is no secret that the level of this problem's solution remains low, even in developed countries. WHO estimates that over one billion people, about 15% of the world's population, have one form of disability and only about 5% of them have congenital disability. A quarter of them are young people, 80% of whom live in the developing countries. People with disability form the largest minority in the world, but unlike many other minorities, it always has an open membership: each of us can become its member at any time due to an accident, illness or ageing.

Thus, disability is a part of human existence. It is considered that the disability, in the vast majority of cases, is a consequence of social, economic or political factors, an accident or armed conflict. Currently, there can be more factors, which contribute to the incident increasing of disability cases, including pollution, HIV/AIDS and drug addiction.

Disability has been stopped to examine as only medical problem, and it is increasingly understood as limiting the social and psychological functioning of the individual on the background of a number of significant institutions such as education, culture, politics, family, etc. The attitude to the disabled people have always been ambiguous and has changed throughout the history of the world. It was not until the twentieth century that ideas of tolerance and equal opportunity began to emerge in the world. However, in today's social reality, there are different stereotypes about people with disability.

Now it is difficult to say when the term «disabled» was widely used, literally it means from Latin «invalid», «non-existent». For many years, this term has been using in the international linguistic space, including the regulatory sources, but its usage is often considered unethical and even discriminatory. At the same time, it should be noted that the term «disabled» has replaced many other, truly rough formulation. For example, people with physical defects were called «poor» or «crippled» in Rus, for describing such people in Spain it was used the term «minusválidos» (translated from Spanish as «inferior»). In Germany, people with disability were marked as the word «Krüppel» (translated from German as «cripple»), later it was replaced by the polite word «Vehinderte» (translated from German «disabled person»). The rough word «Cripple» in the English language space was also replaced by the word «Disabled person».

There is no current definition of disability, although there have been made many different attempts to derive the single meaning of this word. The World Health Organization (WHO) takes into account the social aspects of disability and does not consider disability just how a phenomenon of «medical» or «biological» dysfunction in its International Classification of Functioning, Disability and Health (ICF). Disability is any limitation or absence (due to the defect) of the ability to perform the activities in the order or within the limits considered normal for a person<sup>562</sup>.

New research suggests that even with improvements, most people with disability remain socially impressionable; they have no full social life and have difficulty finding employment, or cannot go beyond specialized enterprises and be stigmatized by society<sup>563</sup>. At the same time, this problem and its causes are much more complicated in practice and not limited to physical obstacles. Other factors further complicate it.

Today, for Ukraine the problem of stigmatizing people with certain physical health disorders is actual. Firstly, the implementation of social programs, actions and initiatives direct to the comprehensive rehabilitation of people with certain physical health disorders and realization

<sup>&</sup>lt;sup>562</sup> World Health Organization «Disability and health».

<sup>&</sup>lt;sup>563</sup> M. Ameri, L. Schur, M. Adya, S. Bentley, P. McKay, D. Kruse, «The disability employment puzzles: a field experiment on employer hiring behavior», Labor and Employment Relations Association conference. 2015, pp. 1-70.

N. A. Bielonosova, «Styhmatyzatsiia osib z porushenniamy fizychnoho zdorovia na rynku pratsi», Rynok pratsi ta zainiatist naselennia, № 2, 2011, s. 38-42.

their potential, despite all other factors; it is significantly slowed down by the fact that there is a set of persistent negative stereotypes in Ukrainian society regarding such people.

In the world community, different countries have different approaches to understanding the level of state intervention in society and the individual, as well as who should be responsible for the social protection of certain groups – the state, insurance companies, employers, the church and charitable foundations family. At the same time, the social models of individual states should not be perceived as something fixed and stable over time. Changes in public life necessitate a revision of certain provisions of social policy and therefore it is possible to constantly monitor the changes taking place in a country in the field of social protection.

Similar trends are observed in Ukraine, with the difference that during the years of independence, Ukrainian scientists and analysts have been constantly interested in the experience of foreign countries and tried to make suggestions based on such experience. Attention is focused on the social policy of developed countries, especially the EU, because on the way to European integration it is important for Ukraine to reach the level of European standards and create a system of social protection that will not yield to the systems of other European countries.

We propose to consider the social policy of some European countries in the field of protection and realization of the rights of persons with disabilities.

Yes, Belgium is one of the most social countries in Europe. The Belgian authorities and social security institutions try to help people with disabilities as much as possible. To this end, a system of tax and social measures was developed and implemented. Disability is recognized in Belgium on the condition that the person cannot work for more than a year due to a certain illness or injury.

In this case, the social service provides assistance for the purchase of prostheses, implants and wheelchairs, as well as some financial support.

In Belgium, the authorities are trying to minimize the impact of disability on human life through specific measures. Examples include the reduction of personal income tax and property tax and the right to a social rate for communication services. In addition, a person who has a lower chance in the labor market or who is heavily dependent on the help of third parties is entitled to additional financial assistance.

There are various measures for social housing for people with disabilities. The conditions of these programs vary depending on the region where the person with a disability lives. Typically, these measures include rent reductions for renters or measures to adapt the home to the needs of people with disabilities. The target group of this event is tenants of social housing, where a family member has a severe disability.

In the event that a person incurs additional costs due to reduced autonomy due to disability, for example, is unable to perform housework as before, he may request additional assistance (cash, or to pay for the services of a hired housewife). To receive this care, a person must obtain confirmation from a doctor. When assigning benefits, the total amount of income of the whole family is taken into account.

Additionally, tax benefits can be provided when buying a car:

- reduced VAT rate of 6% on the purchase of a vehicle, and then – a refund of VAT paid;

- reduced VAT rate of 6% for the purchase of spare parts, equipment and accessories, as well as for maintenance and repair work;

- exemption from tax for registration and use of the car.

These benefits can be given to people with severe physical disabilities or those who are military invalids (military or civilian).

Another type of tax benefits are real estate tax benefits. The measure is to reduce the property tax and increase the amount that does not accrue personal income tax for people with disabilities. Real estate tax deductions are available to tenants or homeowners who have a disability or who have a family member with a disability. In this case, this tax benefit may be granted to persons whose disability was acquired before the age of 65 and who meet certain conditions.

Finally, assistance to change the source of income is provided to persons with disabilities who, due to a physical or mental situation, can earn no more than 1/3 of what they can earn in the labor market without a disability.

Belgian social services are actively raising the awareness of people with disabilities, their families, employers, social workers and society at large about the possibilities for assistance and the existence of various services for people with disabilities. A lot of information on the procedure for obtaining the status of a person with a disability, social benefits, employment opportunities, useful contacts can be found on specially created sites of social services. There is also a centralized electronic service through which a person with a disability or an employer or a certain government agency can submit a request and receive confirmation of the disability status of a certain person.

One of the online platforms that promotes information awareness is Wheelit, a group that includes specialized associations, government agencies and founding members (such as AXA, Ethias, Levi's and L'Oreal) to provide jobs for people with disabilities. This platform is not only a work site for people with disabilities, but also a meeting place where companies want to fulfill their social role, and any other interested person can easily contact this company. The site also contains a lot of useful information for candidates, tips on writing a resume and explaining the benefits and advantages that employers can have when hiring people with disabilities.

In addition to being a meeting place for employers and job seekers, the organization provides a range of services to both parties. For example, helps companies to prepare the workplace, conducts trainings for heads of organizations on the specifics of hiring people with disabilities, promotes social responsibility of the company that cooperates with the organization; companies can also issue a season ticket for a small fee and have access to a complete resume database, which allows the company to save money on hiring staff.

There is a separate online platform for social workers, where they can regularly receive all the necessary information, communicate with each other on practical issues and legislation. This platform allows social workers to constantly have up-to-date knowledge and quickly adapt to change and new challenges. Employment programs operate separately at the regional level. For example, consider the measures in force in the Brussels-Capital Region.

1. Familiarization internship allows a person with a disability to get acquainted with the profession and real life situations in the workplace. Such an internship is unpaid and lasts no more than 20 days, but the social service reimburses the necessary expenses for insurance of a person with a disability for the period of the internship.

2. The adaptation agreement aims to promote the employment of persons with disabilities by establishing a period of mutual adaptation of the employer and the employee with a disability in order to facilitate the conclusion of a normal employment contract. The adaptation agreement is concluded for a period of three months to one year and can be renewed for the second and third year. According to this agreement, the employer pays:

- the first year of work-study -1 euro per hour worked, and from the second year -1.50 euros per hour;

- additional financing: maximum  $\notin$  7.12 per hour (calculated individually taking into account other income and insurance coverage). This additional funding is reimbursed to the employer by PHARE (Organization for the Promotion of the Autonomy of Persons with Disabilities)<sup>564</sup>.

3. Bonus for hiring. The purpose of this bonus is to facilitate the employment or retention of persons with disabilities by compensating for the low productivity presented by some employees due to their disability. It is an intervention provided to the employer for remuneration and social benefits to compensate for the disability of an employee with a disability. For a contract for an indefinite period or a fixed contract (more than 3 months, the bonus may not exceed 50% of wages and contributions paid by the employer). After assessment, PHARE determines the percentage of interventions based on the nature of the disability and the work profile. The award is set for a maximum of one year and can be extended depending on the situation. For fixed-term

<sup>&</sup>lt;sup>564</sup> Obligation d'emploi des travailleurs handicapes: ce qui change en / Ministère du Travail. Emploi et handicap. – 2020.

contracts not exceeding three months, the bonus provided by PHARE corresponds to 30% of the employee's remuneration for the disabled and the contributions paid by the employer. It is fixed during the term of the contract and can be renewed under certain conditions. Integration assistance can be provided after the end of a professional adaptation contract.

4. Support guidance bonus. This bonus was introduced to facilitate the integration of a person with a disability into the workplace, enabling them to have all the necessary information and support. An employer receives a maximum of  $\in$  250 a month in financial assistance from PHARE so that one of its employees can support and accompany a person with a disability at the start of their work.

5. Inclusion bonus. The use of this bonus should promote the integration of people with disabilities in the company by raising awareness and preparing other employees of the company to work in the same team with a person with disabilities. This bonus is paid once by PHARE and covers the cost of courses and trainings for the company's staff. The amount does not exceed 1000 euros.

6. A self-employment bonus is an allowance for a person with a disability who wishes to become independent in the Brussels region or to resume his / her independent activity after a break caused by an injury or illness, or for those who are in a situation where disability may lead to termination of employment activity or lose productivity. This financial assistance is provided to persons with disabilities for a certain period. The amount of assistance is determined as a percentage of the average monthly minimum income, which is guaranteed by a collective agreement, but may not exceed 50%. This percentage is equivalent to the applicant's loss of employment. Intervention is provided no later than the date of receipt of the application. It is fixed for one year and can be extended under certain conditions.

7. Bonus for job creation and its adaptation for people with disabilities. This bonus helps to hire or support a person with a disability or to give employees access to work that best suits their abilities. The benefit is provided to the employer and actually covers the cost of adapting the workplace to the nature of the disability. If the adaptation involves the purchase of specialized equipment, the payment covers only the difference between the cost of such equipment and standard equipment. Assistance may be provided to public or private employers with whom a person with a disability works under a professional adaptation agreement, as well as to self-employed persons with disabilities and organizations that provide vocational training for a person with a disability.

8. Compensation for transportation costs. These costs are reimbursed when a person due to his / her incapacity for work is unable to use public transport or use it independently. These costs must be additional costs associated with disability. When a person can use public transport only accompanied by other persons, only the transport costs of the accompanying person are taken into account. Reimbursement is made no later than the day the PHARE request is received. The amount is reduced by the amount of previously provided assistance.

The UK has also developed and is actively implementing a policy to support people with disabilities. In addition to medical care and home help, such individuals have the opportunity to receive support in finding a job and in the process of adapting to a new job.

The rights of persons with disabilities are actively protected in the labor market. At each stage of the job search, a person with a disability can receive support. Yes, there is a recognition system that allows you to identify employers who are open to hiring people with disabilities. A person with a disability can be sure that such a company will not violate his / her rights through discriminatory practices, and will be sure to be interviewed if the candidate's resume meets the basic selection criteria for the vacancy.

A person with a disability can apply for financial assistance to arrange their own accommodation according to special needs, financial assistance for disability, to receive a number of other financial benefits and assistance in connection with disability, disability, reduced income. You can also get financial help to pay for care services. The amount depends on what and to what extent the person with a disability needs assistance.

In the UK, as in other European countries, people with disabilities receive unemployment benefits and are entitled to job search assistance.

The UK government has also launched several websites where people with disabilities can find information about their labor market rights and the assistance provided by the government or authorized organizations. Thus, the government implements the Access toWork program, which aims to help a person with a disability keep a job or find a job. Under this program, people with disabilities receive personal assistance in various forms. Examples of such assistance are:

1. Accompanying an interpreter, lawyer or other person if the person with a disability is deaf, dumb or has other communication problems.

2. Providing support for people with visual impairments, people who need other specialized support.

3. Provision of specialized equipment.

4. Compensation for transportation costs.

5. Access to mental health support services (individual program for nine months, focusing on adaptation problems).

6. Coaching and mentoring.

The program is widely popularized among employers, as it allows companies to receive financial support in adapting the workplace to the needs of people with disabilities, to provide interviews with people with disabilities, to provide support to both people with disabilities and employers from mentors, coaches, specialists. Mental health during a person with a disability, on-the-job training, internship and when such a person starts work.

France is also one of the countries that pays a lot of attention to the problems of people with disabilities. Thus, a recent progressive change in legislation has required developers to have all new buildings above three floors have an elevator and to be constructed in such a way that a person with reduced mobility can move freely in a wheelchair between different parts of the room. This is done so that people with disabilities not only have their own accommodation adapted to their own needs, but can also visit relatives or friends and not experience restrictions on movement.

In France, companies with 20 or more employees are required to provide 6% of all jobs to people with disabilities. If the company does not reach this figure, it is obliged to pay monetary compensation to the state<sup>565</sup>. All businesses, without exception, are required to report on what they do to provide employment for people with disabilities. In addition, state institutions that do not comply with this norm pay contributions to the Fund for the Attraction of Persons with Disabilities to work in state institutions and local governments.

For people with disabilities who have decided to become entrepreneurs, there is also financial assistance in the event that a person with a disability has a break from work or works with a reduced productivity due to disability.

In France, one of the important institutional elements of providing people with disabilities with work is insurance companies. Yes, if a person has been insured, he is entitled to a so-called retraining contract. This contract is concluded between this person, the insurance company and the employer. A person with a disability can re-learn a new profession or learn how to do their previous job with a disability. In this case, this person receives financial compensation jointly from the insurance company and the employer. Such a contract may be concluded for a period of three months to one year with the right to extend for another period. Thus, the participation of an insurance company in the retraining of a person with a disability partially removes the financial burden from state funds and the employer. Moreover, the existence of such a system reduces the risk of losing a job for people who have just received a disability group and have yet to learn to live with it. The chances of employing people with disabilities who did not have a job are also increased, as the employer is not forced to bear all the risks and costs associated with the employment of people with disabilities.

<sup>&</sup>lt;sup>565</sup> Handicap le-contrat de reeducation professionnelle / Ministère du Travail. Emploi et handicap.

In addition to living conditions, medical and social rehabilitation and employment, France is concerned about the leisure of people with disabilities. To this end, the portal https://tourisme.handicap.fr/ operates, where people with disabilities can find information about tourist routes and places that are adapted to their needs. Moreover, people with disabilities have the opportunity to add tourist places to a common database in order to disseminate useful information to others.

In 2018, the Strategy for Persons with Disabilities for 2018-2030 was presented in Poland. The main goal of the strategy is to achieve full social and professional integration of persons with disabilities, as well as to ensure the realization of their rights, which are defined in the UN Convention on the Rights of Persons with Disabilities.

Poland also combats the problem of low employment among people with disabilities and, like many countries around the world, supports the self-employment of such people. To this end, the country has a system of loans at 5% per annum, these loans are issued to start your own business for up to 48 months.

No less interesting is the experience of supporting people with disabilities in the United States. Especially in terms of stimulating entrepreneurship among people with disabilities as one of the ways to support their professional activities.

Familiarization with some examples of motivation for people with disabilities indicates that an effective form of organizing such assistance is the creation of consortia, which combine the efforts and expertise of several different organizations and possibly individuals. Such consortia may include university (s), employment centers, rehabilitation centers for the disabled and hospitals, community organizations, state and local authorities and businesses. One example of a similar consortium operating in Chicago is analyzed in the work of F. Balcazar, J. Kuczak and others.

Consortia are formed as a result of the combined efforts of several stakeholder groups. An important condition for participation in the consortium is that each of its members could achieve their own goals through such activities. Encouraging people with disabilities to start their own business in such consortia includes several stages and expert support from the moment a person with a disability finds a desire to participate in the program and try to start their own business. The first stage is a conversation with people with disabilities in order to identify the main motivational incentives and a better understanding of the individual situation. It is especially important to focus on the potential of such individuals, not on their limitations.

The activities of the consortium should include additional education for people with disabilities in the form of lectures, seminars, trainings on topics related to starting your own business. In addition, mentoring programs are effective, which allow you to choose an individual approach and provide support in various aspects – psychological, technical, legal, etc. – taking into account individual characteristics and specific problems that arise in the process of developing a business idea, preparing a business plan, registration and business development.

Once a business idea is found, it is necessary to develop and submit a business plan for consideration by a commission of experts, which must include representatives of business structures. This stage is one of the turning points, because the positive perception of a business idea by experienced experts is already perceived as a small victory and motivates to continue to put the idea into practice. Perhaps the most difficult, at this stage, is the critique of the proposed ideas. Therefore, it is very important to work with mentors and a serious approach to finding and developing the initial idea in detail. Also, individuals whose business plans have not withstood criticism should be able to re-enter the business idea search and business plan phase.

The implementation of the business plan should be accompanied by financial, legal, accounting and other advisory support. The need for financial assistance raises the most questions. Given the realities of life in Ukraine, it is not worth hoping that the state will be able to financially support every person with a disability with the implementation of their business plan. Alternative sources of funding should be considered. Such sources can be, first of all, the own funds of a person with a disability or his family. Also, online platforms for startups are gaining popularity, where

the business idea can be supported by professional investors and ordinary citizens. In addition, there are grant programs of international organizations and financial institutions that provide microfinance for small businesses. Such programs have already been successfully implemented in Ukraine and many other countries.

One of the options for developing and implementing a business idea is to create a joint business, where the founders are several people with disabilities. This option has certain advantages: people understand each other, people can be united by a common idea around specific needs that can be profitable (for example, special services for people with reduced mobility).

Of course, the organization of such consortia, as well as any other ways to stimulate entrepreneurship among people with disabilities, requires a lot of effort and a significant share of volunteering. At the same time, this approach allows to create special conditions and an atmosphere of support in which a person with a disability can switch attention from their limitations to their talents and abilities.

Of course, it is difficult to reflect in one article all the successful practices that exist in the field of social protection of persons with disabilities in developed countries. At the same time, the examples considered in the article in Belgium and the USA allow to analyze the possibility of their application in Ukraine and taking into account the peculiarities of the socio-economic system, to develop and implement similar measures in our country.

#### References

1. Ameri L., Schur, Adya M., Bentley S., McKay P., Kruse D. «The disability employment puzz M.les: a field experiment on employer hiring behavior», Labor and Employment Relations Association conference. 2015, pp. 1-70.

2. Bielonosova N. A. «Styhmatyzatsiia osib z porushenniamy fizychnoho zdorovia na rynku pratsi», Rynok pratsi ta zainiatist naselennia, № 2, 2011, s. 38-42.

3. Handicap le-contrat de reeducation professionnelle / Ministère du Travail. Emploi et handicap. – URL: https://travail-emploi.gouv.fr/droit-du-travail/handicap-et-

travail/article/handicap-le-contrat-de-reeducation-professionnelle.

4. Obligation d'emploi des travailleurs handicapes: ce qui change en / Ministère du Travail. Emploi et handicap. – 2020. – URL: https://travail-emploi.gouv.fr/emploi/emploi-ethandicap/article/obligation-d-emploi-des-travailleurs-handicapes-ce-qui-change-en-2020.

5. World Health Organization «Disability and health» [Electronic resource]. Available: www.who.int/mediacentre/factsheets/fs352/en/index.html.

### Part 1. INFORMATION AND INNOVATIVE TECHNOLOGIES IN THE SYSTEM OF VOCATIONAL EDUCATION

#### 1.1. Nataliia Danylevych, Svetlana Rudakova, Liudmyla Shchetinina, Oksana Poplavska. DIRECTIONS FOR IMPROVING THE ORGANIZATION OF THE EDUCATIONAL PROCESS IN THE CONDITIONS OF DIGITAL TRANSFORMATION

The article is dedicated to the highly relevant problem of distance education. The article presents the results of a study of the problems which arise with the introduction of remote technologies into the educational process in higher educational institutions. The authors considered the organization of the educational process during the coronavirus pandemic in the conditions of digital transformation, analyzed the positive and negative aspects of distance learning. The results of the sociological survey of university students became the empirical basis of the study. The existing difficulties of the usage of distance learning technologies in higher education faced by teachers and students in the communicative, educational, motivational, organizational and technical process are specified.

#### 1.2. Sofiia Dembitska, Olha Kuzmenko, Marvna Miastkovska. **IMPROVEMENT** OF THE ORGANIZATION OF SCIENTIFIC AND RESEARCH WORK OF STUDENTS THE **CONDITIONS** OF TECHNICAL **SPECIALTIES** IN OF **INNOVATIVE DEVELOPMENT OF HIGHER EDUCATION**

The article examines the peculiarities of the organization of research work of students of higher education as one of the important components of the professional characteristics of a future specialist. The problem of ensuring the management of students' research work is singled out. The prospects of perfecting its management, in particular, as a means of expanding the opportunities for self-realization of the future specialist, mobilizing his potential, have been determined. The interpretation of the concept of «scientific and research activity of students» in institutions of higher education has been improved. The necessity of using the latest methods for the organization of research activities of higher education applicants is substantiated. The author's model of management of research work of students of technical specialities in the conditions of innovative development of higher education is proposed. Prospects for further scientific exploration have been determined.

#### **1.3.** Annaguly Deryaev. FIXING OF DIRECTIONAL WELLS FOR DEVELOPMENT BY A METHOD DUAL COMPLETION

The monograph examines the issues of fastening, depth of descent, cementing, directional wells, for development by the method of dual completion (DC). The depth of descent of each casing string is specified in such a way that its lower end is in the range of stable weakly permeable rocks, and that it completely overlaps the intervals of weak rocks in which hydraulic fracturing can occur when opening zones with abnormally high reservoir pressure in the underlying interval.

The casing string should be lowered into the inclined well as quickly as possible. To do this, it is recommended that during the preparation of the well for mounting, assemble part of the column into the knees and install them behind the finger in the drilling rig.

During cementing, a high hydrodynamic pressure is created in the productive formation, which ensures the penetration of cement mortar into the pores and cracks of the productive formation and often leads to hydraulic fracturing of the formation, followed by the withdrawal of significant volumes of cement mortar into it, as indicated by cases of under-lifting of cement mortar to the calculated level. That is why a very important task when cementing an operational column is to reduce the hydrodynamic pressure of the cement mortar on the productive formation and, if possible, completely eliminate the contact of the cement mortar with the productive formation. Such work will be useful to specialists in the field of oil and gas.

### 1.4. Dmitriy Kostiuk, Anastasia Markina. INTERACTIVE LEARNING AND THE ERGONOMICS OF HUMAN-MACHINE INTERACTION

The experience of teaching the ergonomics of the "human-machine" interface for students of computer science and radio electronics is presented. Increased interactivity is achieved through elements embedded in teaching materials through virtualization. Practical study of usability express-testing based on self-reported parameters and biometric approaches is discussed.

#### 1.5. Andrii Lagun, Nataliia Kukharska. ANALYSIS THE EDUCATIONAL PROGRAM FOR TRAINING COMPUTER SCIENCES SPECIALISTS DEVELOPED BY THE INFORMATION SYSTEMS AND TECHNOLOGIES DEPARTMENT OF LVIV POLYTECHNIC NATIONAL UNIVERSITY

In this monograph is carried out the study of education methods for students majoring in speciality "Computer Sciences" at the Lviv Polytechnic National University. Part of the work is devoted to the review of existing educational programs in the field of knowledge "Information technologies", which are successfully used nowadays. The considered educational program was developed by the working group of the Information systems and technologies department of educational and scientific institute of Enterprise and Advanced Technologies. After completing the training by this educational program, specialists can work in IT companies and at any enterprises that develop and use computer technologies and computer equipment. Also was carried out an analysis of the general and professional competencies for future specialists. In particular were noted two possible specializations of trained specialists namely the development of application software and programming of cyber-physical systems components.

#### 1.6. Vasyl Andriiashko. FROM HISTORY OF DEVELOPMENT TEXTILES OF THE KYIV REGION

On the basis of the literary sources available to the author of the article, the main milestones of the development of artistic textiles of the Kyiv region are considered. Textiles on the territory of modern Ukraine existed in all historical periods, starting with the Trypil culture, as evidenced by the impressions on the bottoms of ceramic dishes found during archaeological excavations. During the times of Kyivan Rus, in addition to simple linen weaving, there was a patterned weaving and a bump on the fabric, where the pattern was applied with the help of paint and stamps cut out of wood. Textiles acquired development even after the Tatar-Mongol oppression in the times when the Kyiv lands were under the rule of the Grand Duchy of Lithuania.

In the 17th and 18th centuries. silk manufactories were developed in Kyiv itself, where, in addition to breeding cocoons, silk fabrics were made. In the mid-19th to the first half of the 20<sup>th</sup> centuries, textiles became widely developed in the Kyiv region. In 1906, the Kyiv Artisan Society was created to intensify the development of textile and other industries.

Textiles gained further development after the establishment of Soviet power in Ukraine. In the 1930s, weaving centers worked in Bohuslav, Pereyaslav, and Tarascha. In the post-war period, textile mills came into operation in Kyiv – the Darnytsky Silk Mill, which produced fabrics from synthetic fibers, and the Kyiv Silk Mill, which produced natural silk fabrics.

### **1.7. Lyudmila Bazyl, Valery Orlov. INNOVATIVE CONSULTING TECHNOLOGIES FOR YOUTH ENTREPRENEURSHIP IN THE PROFESSIONAL EDUCATION SYSTEM**

The use of entrepreneurial talents of young people and the easing of restrictions on the labor market are vital mechanisms for creating jobs and inclusive growth of the number of people involved in the process of entrepreneurial activity, increasing the degree of participation of all citizens in the economic development of the country. Meeting the individual needs of graduates ofprofessional education institutions in personal development and career growth, as well as expanding their rights and opportunities, should become a priority in Ukraine, as it is the case in the countries of the European Union and declared by the United Nations. Effective entrepreneurial education is the key to expanding the potential of youth entrepreneurship.

### 1.8. Olena Balukhtina. SOCIOLOGICAL RESEARCH OF PROBLEMS OF DISTANCE LEARNING IN UKRAINE

Modern sociology studies the transformation of education in society in the context of the requirements and opportunities of the XXI century. In Ukraine, many analytical centers help in this research process. The purpose of our scientific research is to analyze the problems of distance learning for 2020-2022, conducted in Ukraine by the Foundation "Democratic Initiatives named after I. Kucheriva" and CEDOS. The positive and negative aspects of distance learning during the COVID-19 pandemic are clarified. Recommendations on increasing the effectiveness of distance learning in wartime are presented. The conducted research contributes to the awareness of the importance of this form of education, the growth of its popularity, outlines its new possibilities and prospects in today's realities.

## **1.9. Natalya Grabar. SERVICE-ACTIVITY TRANSFORMATION OF COMMUNICATION IN THE FUNCTIONING OF THE INFORMATION AND COGNITIVE MARKET OF SERVICES CONDITIONS**

In the education system, the phenomenon of communication is of particular importance, since it realizes the goals of informing, teaching. With the advent of virtual educational institutions, the openness of the education system through distance education is more clearly manifested. Distance learning provides opportunities for a variety of communication. The focus is on the effectiveness of the modern digital technologies use in the educational process. The importance of services is noted, with the help of mobile devices, which, in the conditions of forced evacuation and relocation to safer places, have become the only form of communication. Media education, implemented using information and communication technologies, is gaining significant influence and aims to teach the student how to use them and organize the process of self-education. A significant role in this is played by the library of the educational institution.

#### **1.10. Katerina Vasuk. THE PARTICULARITIES OF DIGITALIZATIONOF EDUCATION IN DIFFERENT COUNTRIES**

The article deals with the concept of distance learning and process of digitalization, realizes the comparing of it in Ukraine and different countries, which have the experience of using, in particular with regard to the student's digital literacy. Based on theoretical analysis of the regulatory documents and statistic we've analysed the effectivity of distance learning and described its advantages and disadvantages. There is also the classification of the different forms and of distance learning, which are used in the high education. The article also deals with the idea of Digital Campus, what was implemented in some universities of Ukraine.

#### 1.11. Yuliana Irkhina, Sabina Radzhabova, Hanna Varina. THE MODERN DIGITAL SERVICES AND TOOLS FOR THE STUDY OF PSYCHOLOGICAL AND PEDAGOGICAL DISCIPLINES IN A HIGH PROFESSIONAL SCHOOL

The article deals with the importance of possessing modern information and communication technologies, digital services and tools in the context of the digitalization of the economy, society, and education by both a teacher and a student, a future specialist. The requirements for the teacher's knowledge and skills in the field of information and communication technologies are revealed, some digital services and tools are described, which are appropriate to use in the process of studying psychological and pedagogical disciplines.

It has been convincingly proven that the use of modern digital tools, interactive learning technologies, opens wide prospects for deepening the theoretical knowledge base, strengthens the motivational orientation of students to study academic disciplines, in particular, psychology and pedagogy, provides mastery of personality self-development skills, opportunities to think, creatively develop, construct new.

#### 1.12. Halyna Oliinyk, Alla Rubanka, Ivan Frolov, Olena Herasymenko. DIRECTIONS OF USING DIGITAL TECHNOLOGIES IN THE TRAINING OF SPECIALISTS IN THE FIELD OF DESIGN AND PLANNING

The article reveals the problem of using digital technologies in the future specialists professional training in the field of design and projecting with the modern digital technologies usage, in the conditions of the informational educational environment of higher education institutions. The concepts "digital technologies" and "digital literacy" were revealed, and it was established that they are a tool that's actively used in education and contributes to the improvement of its quality. The most common online services for visualizing educational material in the educational process were considered.

### **1.13. Oleksandr Radkevych. MOBILE DEVICES AS A MEANS OF ASSESSING LEARNING OUTCOMES**

The relevance of the use of mobile devices in learning and assessment of learning outcomes is revealed. The features of the use of mobile devices as a means of visualizing learning material, expanding distance learning opportunities, tests and surveys are substantiated. Programs for mobile learning and testing (simple, allowing teachers to put students subjective scores; complex, which do not involve teachers in assessing learning outcomes) are characterized. Technically advanced types of mobile applications – location-based mobile learning systems – are highlighted.

#### 1.14. Julia Ribtsun. NEUROPSYCHOLOGICAL APPROACH IN WORKING WITH CHILDREN WITH STUTTERING. OVERCOMING PSYCHOLOGICAL TRAUMA CAUSED BY MILITARY ACTIONS

The article analyzes the speech, psychophysiological, personal difficulties of children with tempo-rhythmic speech disorders. Considerable attention paid to the peculiarities of the impact of psychological trauma on children with stuttering due to of hostilities. The functional blocks of the brain (according to A. Luria) analyzed through the prism of stressful situations caused by war. For each of the three functional blocks of the brain, methodological recommendations and game exercises are proposed that can be used both by parents of children with tempo-rhythmic speech disorders during family education and upbringing, and by teachers (speech therapists, practical psychologists, educators, primary school teachers, inclusive resource centers).

### **1.15. Maria Samarska, Artem Ponomarev. DEVELOPMENT OF COMMUNICATIVE SKILLS OF JUNIOR SCHOOLCHILDREN BY MEANS OF EPISTOLAR GENRE**

The relevance of the study of the peculiarities of the development of communication skills of primary school students is due to the need for socialization and the formation of a comprehensive and harmoniously developed personality, able to successfully interact with other people. The essence of the key concepts of this problem in the context of finding effective ways to solve it is revealed. The epistolary heritage of Ukrainian and foreign writers as a means of forming communicative skills of junior schoolchildren in extracurricular activities is analyzed. As a result of diagnostics the insufficient level of formation of communicative skills of pupils of elementary school at the first stage of formative experiment is defined. A number of letters of different types and directions were developed, which were introduced in the formative process with students in extracurricular activities. Approbation of the developed forms and methods of work has shown their efficiency and high efficiency. Thus, as a result of the formative experiment, it was concluded that the introduction of elements of the epistolary genre in the work with primary school students contributes to a more effective formation of communication skills.

### **1.16. Iryna Sundukova. CORRECTION OF MENTAL STATES OF STUDENTS BY MEANS OF PHYSICAL EDUCATION**

The article analyses scientific data on the essence of mental states and the prerequisites for their occurrence in the educational activities of students of higher education institutions, defines the means and methods of correcting negative mental states, the main of which is regulation using the hatha yoga system and the Qigong health system. The possibilities of the means of physical culture for the normalization of mental states are highlighted, which contributes to the assimilation of the valuable function of physical culture, the formation of motor culture and sustainable motivation for systematic physical exercises.

### 1.17. Yuri Tarasenko, Viktoriia Klym. FORMATION OF THE ANTI-PLAGIARISM OUTLOOK IN THE EDUCATIONAL SPHERE OF SOCIETY

The priorities of the formation of cognitive activity from the standpoint of the effectiveness of the educational process without academic plagiarism are prezented. The analysis of the semantic ambiguity of the terms compilation, plagiarism and integrity, incompatible with manifestations of bribery and kleptomania, is carried out. Ways to protect the educational sphere from various addictions are indicated.

### 1.18. Lesia Uhryn. USING THE PROJECT LEARNING IN THE TRAINING OF IT SPECIALISTS

Increasing the qualification level of IT market specialists is relevant and in demand today. Training a high-quality specialist is not an easy task, since not only software and hardware, but also technologies and methodologies in solving the tasks are changing quite quickly. Accordingly, it is also necessary to change approaches to the training of IT specialists. A significant number of ideas and approaches to the organization of work that are currently used in IT companies can be used in the educational process, thereby closing the gap between university education and future professional activity. Educational programs must take into account the dynamics of development and be updated in proportion to the updating of the IT industry, using modern competence and comprehensive approaches. At the same time, they should prepare the student to independently make decisions and acquire the knowledge necessary for the successful implementation of the project. The research in the work is devoted to project-oriented learning, in particular, the use of scrum technology.

#### 1.19. Leonid Tsubov, Oksana Kalinska, Olha Tsubova. INNOVATIVE PEDAGOGICAL TECHNOLOGIES FOR THE DEVELOPMENT OF PEDAGOGICAL SKILLS OF AN EDUCATIONAL INSTITUTION TEACHER IN THE SYSTEM OF DEPARTMENT METHODOLOGICAL WORK

The article highlights the issue of the introduction of innovative pedagogical technologies as a way to form pedagogical skills and professionalism of the teacher of an educational institution in the system of methodical work of the department. It was considered the problem of developing the teacher's pedagogical skill in the context of using modern innovative educational and pedagogical technologies. Innovative educational and pedagogical technologies that are actively used in the pedagogical process of a teacher at an educational institution are described.

It was determined that the active implementation and use of innovative educational and pedagogical technologies by teachers of educational institutions in the educational process effectively contributes to the development and training of qualified personnel who are competitive in the labor market, capable of creative work, professional development, mastering and implementing science-intensive and information technologies.

#### **1.20.** Anna Chobanian, Alla Kolyshkina, Oleksandr Kolyshkin, Svitlana Kondratiuk. DEVELOPMENT OF A MODEL OF THE COMPETENCE OF PARENTS OF OLDER PRESCHOOL CHILDREN WITH INTELLECTUAL DISABILITIES

The authors carried out a study of the definition of the competence of parents of children with intellectual developmental disabilities of a moderate degree. Unlike children with typical development, on whom the influence of the family weakens with age, and upon reaching adulthood, the role of the family significantly decreases in the aspect of making independent decisions about determining their own life path, for children with intellectual development disorders, the role of the family significantly increases with age does not change, but on the contrary – increases. In this regard, the development of the competence of their parents becomes important. In the aspect of the mentioned question, an experimental model was developed for the diagnosis and development of competence of parents of older preschool children with intellectual developmental disorders of a moderate degree. The main attention is paid to the technology of conducting socio-psychological training on the development of competence of parents of competence of parents

### **1.21. Olha Shevchenko. TRAINING OF FUTURE TEACHERS OF PHYSICAL CULTURE BY MEANS OF HEALTH TECHNOLOGIES**

The article examines the issue of training future teachers of physical culture by means of health technologies. It was found that the professional formation of future physical culture teachers is connected with the formation of a healthy lifestyle of the younger generation. It was determined that the basis of health care pedagogy is based on conceptual ideas about a set of harmonious intellectual and physical development and self-development of an individual physically capable of self-creation, which is supported by systematic physical exercises and a system of forming health-preserving life principles. It has been proven that the formation of pedagogical competences affects the creative development and professional growth of students, and a systematic and planned approach to innovations contributes to their development. The professionalization of the future physical culture teacher requires creative self-determination, without which it is impossible to ensure the quality of education.

#### **1.22.** Olha Shchetynina, Larysa Horbatiuk, Ganna Alieksieieva, Nataliia Kravchenko. IMPLEMENTATION OF THE KANBAN METHODOLOGY IN THE TEACHING OF WEB TECHNOLOGIES FOR SENIOR STUDENTS

The implementation of Kanban project management method in the teaching of web technologies to senior students is discussed. It was pointed out that there are common approaches to project management and educational process management. Online systems for teamwork that support Kanban methodologies for project management have been analyzed. The model of interaction between the subjects of learning in the Trello project management system is developed. A virtual canban-board for informatics (Web Technology module) in the Trello system is developed and the experience of its use in the teaching process is described. The study can be useful for educational institutions interested in using agile methods in teaching.

#### Part 2. INFORMATION AND INNOVATIVE TECHNOLOGIES FOR SOLVING ECONOMIC AND SOCIAL PROBLEMS

#### 2.1. Iryna Farynovych, Oksana Knyshek. PROFESSIONAL COMPETENCE OF THE HEAD OF A HEALTHCARE FACILITY AS A FACTOR OF ENSURING EFFICIENT MANAGEMENT

The article summarizes the theoretical ideas of scientists about the essence of the concepts of competence and competence. The main components of competence are defined. A scheme for the assessment and development of professional competencies of the management staff of the health care institution has been created. It was found that the professional competence of the head of a medical institution depends on its effective management. The article describes the requirements for a modern health care facility manager. It is substantiated that the main task of the head of a medical institution is to increase economic, social and medical efficiency. The ultimate task of the manager is to achieve high quality of medical services. The article substantiates the relationship between the professional competence of the heads of medical institutions and their effective management activities. The directions for increasing the efficiency of management activities of medical institution are described.

# **2.2. Leonid Gerganov. VOCATIONAL EDUCATION OF MARITIME WORKERS IN TRAINING CENTERS OF SHIPPING COMPANIES UNDER MARTIAL LAW IN UKRAINE**

The article deals with the problem of vocational training of future sailors in the conditions of martial law in training centres of shipping companies, by creating a professional environment close to the performance of professional actions in wartime situations, has professional flexibility in conditions of dynamic changes in the labour market, takes into account individual characteristics employees to master their future profession, the need for their professional development and adaptation to work on modern ships in new socio-economic and external conditions. The results of this vocational training should predict the probable consequences of each of the decisions made by a seafarer at his workplace that pose a real threat to the lives of people and the safety of cargo.

#### 2.3. Liliia Grynash, Khrystyna Gorbova, Iryna Yaremchuk. PECULIARITIES OF THE RELATIONSHIP BETWEEN INNOVATIVE DEVELOPMENT AND CAPITALIZATION OF THE ENTERPRISE FORMED ON THE CONCESSION

The purpose of the study is to determine the essence of the concept of concession, as well as the connections between innovative activity and the capitalization of such an enterprise. The methods of determining the economic efficiency of investment and innovation projects, in particular the "net present value" method, are substantiated. It is proposed to use the method of "determining the overall efficiency of capital investments" to determine the increase in economic efficiency, and a scheme for taking into account the most important factors affecting capitalization has been developed.

#### 2.4. Lev Kloba, Nazar Dobosh, Pavlo Goryslavets. EFFECTIVE BANKING INVESTMENT ACTIVITY – THE KEY TO ECONOMIC DEVELOPMENT OF UKRAINE

The article reveals the essence of the investment of the bank and determines the sources of formation of bank investment resources by their reliability and sustainability. The authors analysed external and internal factors of investment climate and determined that the main factor of its formation is the state regulation of investment activity of business entities. In the process of the research the recommendations for effective use of the mechanism of providing state guarantees to investors in the national economy of Ukraine are also presented. According to the authors, creating a favourable investment climate will increase investor activity and increase capital flow, as well as reduce the risk of non-repayment of investment funds for investors. This will help to improve the quality of the investment climate that will form the investment attractiveness of both the country as a whole and its individual regions.

#### 2.5. Tetiana Lysiuk. INNOVATIONS IN TOURISM

It was analyzed which tourist enterprises are the most innovative and, as a result, competitive in the tourist market.

An expert-evaluative analysis of the trends in the implementation of innovations by tourism enterprises was carried out, which makes it possible to assert the readiness of the domestic tourism market for the introduction of the latest technologies, such as chatbots, blockchain technologies, artificial intelligence and the Internet of Things.

It is argued that the economic situation in the country, the social condition of the population, national legislation, as well as intergovernmental and international agreements affect the implementation of innovations in tourism.

### 2.6. Tetyana Nestorenko, Oksana Sternyuk. MODERN MANAGEMENT MODELS OF HIGHER EDUCATION INSTITUTIONS

The main groups of models of higher education systems are considered in the article. It is substantiated that the effectiveness of the university's activity, the degree of ability to quickly make current and strategic decisions depends on the model of the higher education system in force in the country (liberal or post-administrative type). The article analyses the main differences of models in a higher education system. The main elements of the university management system are defined. Peculiarities and results of reforms in the sphere of higher education in Poland and Slovakia are studied. The role of successful international accreditation in ensuring continuous quality improvement in universities is analysed.

### 2.7. Olena Tsyplitska. TECHNOLOGY TRANSFER AS A STRATEGIC PRIORITY OF INDUSTRIAL DEVELOPMENT: GERMANY'S EXPERIENCE

The study discloses the peculiarities of technology transfer organization in Germany for achieving high levels of industrial and technological development. On the example of Julius-Maximilians-University of Würzburg the characteristics of the technology transfer center's operations are considered, in particular the process from invention to exploitation of the scientific development. The data on the effectiveness of German technology transfer system are performed. The recommendations for the Ukraine regarding the Germany experience implementation are presented.

### 2.8. Olha Vladymyr. "MARSHALL PLAN-2" – EXPECTATIONS AND OPPORTUNITIES FOR UKRAINE AND THE WORLD

The historical background and features of the implementation of the Marshall Plan are examines in the article. The main goals and results of the implementation of the Marshall Plan for the USA, the countries of Western Europe and the world in general are outlined. Its role in the transformation of economic and political processes in the world is emphasized. The article reveals the main ideas and proposals regarding the implementation of the Marshall Plan for Ukraine. The need for collective protection of Ukraine and European countries from terrorist aggression by the Russian Federation was emphasized. The proposals of the government of Ukraine regarding the development of the Marshall Plan for the recovery of the country, proposed at the meeting in Lugano (Switzerland), were considered. The need to show the primary initiative of Ukrainians for the development and implementation of various projects for the reconstruction of the country was emphasized. Mutual benefit from the implementation of the Marshall Plan for Ukraine, Europe and the world was emphasized.

### 2.9. Alexander Volchek, Dmitriy Kostiuk, Dmitriy Petrov, Nikolay Sheshko. ESTIMATING THE SOCIO-ECONOMIC DAMAGE CAUSED BY RIVER FLOODING

The issues of predicting damage as a result of flooding of highly anthropogenically transformed territories are considered. Flood modeling approaches to predict the flood zones are reviewed. A method for the spatial analysis of the level of use of the territory and the depth / duration of flooding of the territory is proposed.

#### 2.10. Iryna Anhelko, Nataliya Samotiy. INTEGRATED MARKETING COMMUNICATIONS IN THE ACTIVITIES OF ENTERPRISES: ROLE, APPLICATION FEATURES AND INFLUENCE EFFECTIVENESS

As is known, the exchange of information accompanies all stages of development and processes of functioning of a separate business entity, ensures the formation and implementation of functions and management methods by it, determines its relationship with the market. It is worth noting that an important place in the system of communication relations of a business entity belongs to marketing communications, which are "aimed" not only at informing the consumer about products, but also at establishing long-term relations with him, which in general has a positive effect on the competitive position of the entity project and its success on the market.

In modern conditions, it is quite difficult for a business entity to determine which means of marketing communications are effective, i.e., those that can provide it with long-term relations with consumers. Therefore, it is most often suggested to use a complex of marketing communications, which in economic practice is called «integrated marketing communications».

The importance of the use of integrated marketing communications by individual business entities is becoming more and more relevant, which creates the need to assess the effectiveness of their application and impact on the activities of business entities.

### 2.11. Yuri Biletsky. INNOVATIVE ACTIVITIES ON THE TOURIST MARKET OF UKRAINE

The results of the research on the use of innovations in the domestic tourist market in the conditions of increased competition and unfavorable period for the tourist business are presented. The most popular innovative computer reservation and reservation systems and their implementation on the domestic tourist market are analyzed.

The websites of tourism enterprises were studied, namely their functionality and informativeness, and the reasons for the low innovativeness of some enterprises in the tourism industry were found.

The most popular innovative technologies on the Ukrainian market have been identified and analyzed. The latest technological solutions used by domestic enterprises to optimize work and increase sales are considered.

The latest technologies that will be used in tourism have been identified, including CRM systems for the domestic tourist market.

Deficiencies in innovative activities of the domestic tourist market are indicated.

Information on the use of innovations by Ukrainian tourism firms has been updated and summarized.

#### 2.12. Denys Bochkarov. TRENDS AND DIRECTIONS OF RECOVERY OF THE AGRICULTURE MARKET OF UKRAINE IN THE CONTEXT OF ECONOMIC SECURITY

Nowadays it is created unprecedented large-scale challenges and threats to the economic security of the agri-food market in Ukraine, which is one of the most important sectors of the national economy. The article examines the trends in the development of the agri-food market of Ukraine, identifies threats to its functioning during the war period, and substantiates the main directions of recovery based on the principles of market resilience.

#### 2.13. Liudmyla Halan, Nataliia Bobrovnycha. SYSTEM OF COMPETITIVE STRATEGIES TO ENSURE THE MODERN TELECOMMUNICATIONS OPERATOR DEVELOPMENT PROSPECTS

The article examines theoretical aspects regarding the use of competitive strategies of the telecommunications operator and highlights competitive strategies to ensure their implementation in the activities of the telecommunications operator of Ukraine. The article highlights the advantages and disadvantages of the company's competitive strategies. Also, in order to see the impact of certain factors on the socio-economic development of the telecommunications operator in modern conditions, a SWOT analysis was formed - an analysis of the activity of the leading operator of Ukraine, namely, the Kyivstar PJSC companies. The result is ensuring the successful implementation of selected competitive strategies in the activities of the telecommunications operator, which form competitive positions on the market and further prospects for the development of the mobile communications operator.

### 2.14. Lyudmila Zveruk. ECONOMIC EFFICIENCY OF THE MANAGEMENT SYSTEM OF INNOVATIVE ACTIVITIES OF BANKS

Digital ecosystems are a promising business model for banks, as their implementation increases the client base, allows you to earn income outside of the core business, and cooperation with other companies creates additional income and a synergistic effect. The effectiveness of innovative activity can be evaluated through economic, social and strategic effects, and as a system characteristic – through the evaluation of components depending on the type of innovation and innovative activity. The system organization of effective innovative activity of banks is developing into an ecosystem. The main task of ecosystem development is the active struggle for customers, the creation of innovative products, and the availability of services.

Improvement of the innovative activity of the bank includes: transformation of the innovative development strategy of the bank, expansion of the areas of innovative activity, provision of effective organizational structure and management.

### 2.15. Mariia Lapishko, Oksana Sadura. BANKING SYSTEM OF UKRAINE BEFORE AND DURING THE RUSSIAN AGGRESSION

The priority tasks of the banking system of Ukraine today are minimizing the negative impact of russian military aggression on the financial system and maintaining its stable operation. The more important result can be considered that the financial system of Ukraine on modern military conditions is institutionally capable, ensures money circulation, preventing panic in the financial markets. In the presented article describes the Ukrainian financial system and her banking sector before and during the hostilities of the full scale russian invasion of our state. Problematic aspects of the breach of financial stability are indicated. Risks and threats to the financial sector of the economy are outlined, as well as promising and projected results of calculations based on the Inflation Report of the NBU.

#### 2.16. Yuri Pozdnyakov, Mariia Lapishko. METHODOLOGICAL FEATURES OF REPORTS ON INDEPENDENT PROPERTY AND PROPERTY RIGHTS VALUATION FORENSIC EXAMINATIONS PERFORMING

The article behaves to the field of assets and property rights independent expert appraising / valuation reports forensic economic examinations. Theoretical grounds, on those economic measurements expert valuation results uncertainty degree methodology is based, are examined. The substantiation of the probabilistic-metrological approach methodology principles to evaluation results uncertainty degree quantitative determination, based on the evaluation result interval form presentation, is considered.

The purpose of the article is to highlight the problematic issues of forensic economic examinations performing, to establish indicators of the assets value obtained as a result of economic measurements carried out by methods of independent expert evaluation. Research and interpretation of theoretical grounds and practical recommendations substantiation for the heuristic methods for determining objective quantitative indicators of the evaluation result uncertainty degree. Performing the evaluation results interpretation; analysis of opportunities to increase the objectivity of these results; practical recommendations formulation on the priority areas of their analysis.

The requirements of national and international evaluation standards for the evaluation results uncertainty are analyzed. The methodology of evaluation results accuracy objective quantitative indexes are described and performed. It is well-proven that the level of valuation results errors at economic measurements implementation can be set on the basis of information theory and measurement uncertainty / errors theory laws application. It is shown that in the case of Comparative Sales and Income approaches applying, uncertainties for given levels of confidence probability in the form of numerical values of the confidence interval limits can be established on the basis of similar property adjusted single unit value indicators or rental rate rows statistical processing. Attention is accented on the informative-metrological approach to valuation results uncertainty degree exposure.

### 2.17. Pavlo Semenov, Vitaliy Pustovyi. DETERMINATION AND EVALUATION OF PARAMETERS OF THE TECHNICAL CONDITION OF PORT CRANES

An analysis of the main damages and defects of metal structures of port cranes was carried out, the periods of origin and development of defects during the life cycle of the crane were determined. The distribution of the number of damages by the main elements of port cranes is given. It was established that 40% of dangerous defects detected during technical diagnostics of port cranes are defects of calculated metal structures. The main requirements for the safe operation of cranes with defects and damage to the metal structure are defined.

#### 2.18. Alexander Sklyarenko, Liliia Petrushenko. THE SIGNIFICANCE OF A MODERN AND INNOVATIVE PERSONNEL POLICY IN THE MANAGEMENT OF A SCIENTIFIC INSTITUTION

The paper examines the principles and directions of the latest personnel policy as a leading tool for the strategic development of a scientific institution. An approach to determining the personnel policy of a scientific institution is proposed, its purpose, object and principles are outlined, and the peculiarities of personnel formation are investigated. The key areas of human resources in scientific institutions were determined and a number of recommendations were proposed for the implementation of innovative methods of forming human resources.

#### 2.19. Dmytro Starokadomsky, Mariia Reshetnyk. TYPICAL PROBLEMS IN THE RELATIONS OF UKRAINIAN INNOVATIVE SCIENTIFIC TEAMS WITH REPRESENTATIVES OF BUSINESS AND PRODUCTION

The examples of real situations, typical problem situations in the contacts of "innovatormerchant" and "innovator-producer" are considered. It is shown that up to 90% of such contacts do not provide real benefit to innovative teams, ending (at best) at the stage of the first payments. As a rule, this trend has a number of reasons. This is, in particular, the illiteracy of most scientists regarding the method of implementation and production requirements; businessmen's confidence in the ability to appropriate the innovator's development for free or "on-free" or "for a penny"; regularity, high cost and corruption of certification and permitting procedures; reluctance of business and production to draw up official contracts through the Research and Development Institute. The real reasons for the low efficiency of numerous start-up companies, project teams, grant groups and the forums, exhibitions, and round tables organized by them are revealed. The main reason for this, the authors see, is the low level of state support for its own innovation sector, and the dependence of the state innovation policy on Western financial and credit structures.

### 2.20. Oksana Tereshchuk. INNOVATIVE ACTIVITIES ON THE TOURIST MARKET OF UKRAINE

The main components of innovative activity, which are the result of the implementation of innovative projects, as well as research and development of new technology (including information technology), are substantiated.

The effectiveness of technical, organizational and economic innovations has been proven, which inevitably lead to noticeable positive changes in social processes at enterprises, and the ever-increasing actualization of urgent social tasks initiates their solution with the help of new organizational, technical and economic solutions.

The priority areas of tourism development have been determined. Its activation involves the diversification of specific submarkets and the complication of the territorial structure of the domestic market due to the formation of local territorial markets based on the intensification of the resource base of tourism and the development of tourist infrastructure.

The main regulator should be the introduction of innovations in the tourism business, which will help stimulate the development of small and medium-sized enterprises in domestic tourism and the organization of excursion activities.

#### 2.21. Iryna Khymych, Nataliia Tymoshyk, Tetiana Vynnyk, Tetiana Podvirna. UKRAINIAN BANKING SYSTEM IN THE CONDITIONS OF WAR

This article highlights Ukraine's banking system's peculiarities in wartime conditions. The general strategy of the NBU in the war conditions has been presented. This strategy reflects the macro level of functioning: NBU, banks, and non-banks. The positive and negative factors influencing the NBU in wartime conditions have been studied. It has been determined that the activity of the banking sector remains liquid. Liquidity risk and credit risk are described. A map of the financial dynamics sector risks was presented. It has been determined that the agriculture

sector needs the most bank lending. It has been investigated that the NBU pursues a policy of regulatory relaxation. The primary information technology functions of the NBU are described. The rating of the most reliable Ukrainian banks as of June 1, 2022, is presented. The dynamics of the financial stress index results for Ukraine are displayed. The schedule for the gradual restoration of the country's bank's capital is described.

### 2.22. Leonid Tsubov, Oresta Shcherban, Liubov Kvasnii. THE ROLE OF INFORMATION SYSTEMS AND TECHNOLOGIES IN ECONOMIC MANAGEMENT

This article examines the role of information systems and technologies in managing the economy. The objective reasons for the emergence of the Internet economy, which are related to the socio-economic transformations that took place in society and the economy in the second half of the 20th century, are analyzed. Five periods of the development of the Internet economy are conventionally identified.

The functions performed by the Internet in the modern economic system are determined. Since knowledge, information and methods of their processing become a decisive factor in the development of society, four stages of the formation of the information economy are distinguished. The place of the Internet economy in the modern economic system and the advantages of the digital economy are outlined.

A number of priority innovative solutions for building a digital economy in Ukraine and developing Internet entrepreneurship are proposed. The need for the introduction of innovations, as well as the proper regulatory and legal regulation of their implementation, has been proven.

### Part 3. INFORMATION AND INNOVATIVE TECHNOLOGIES IN SUSTAINABLE DEVELOPMENT OF SOCIETY

#### **3.1. Ihor Alieksieiev, Andriana Mazur. THE FOREIGN POLICY ASPECT OF RESEARCH IN FINANCE**

Modern international and national finances of many countries are under the influence of aggressive actions of a number of countries. In particular, the financial system of Ukraine is under catastrophic influence from the Russian aggressor. Such actions also significantly affect the financial systems of European countries. Due to the blockade of Ukrainian seaports, there was a threat of a global food crisis. Russia's war against Ukraine outlined the importance of taking into account foreign policy influence in financial relations between countries, as well as within national financial systems. In this way, the foreign policy factor became dominant in the finances of many countries of the world in the 20s of the XXI century.

## **3.2. Victoriia Overchuk, Natalia Lapshova. WAYS OF SOCIO-PSYCHOLOGICAL INTEGRATION INTO SOCIAL LIFE OF PERSONS WITH DISABILITIES: EUROPEAN EMPLOYMENT EXPERIENCE**

The problem of people with disabilities integration into social life has existed throughout the entire existence of mankind. But the level of this problem solving remains low even in countries with developed economic. The article examines the European experience of socio-psychological integration into the social life of persons with disabilities: the European employment experience through employment such people.

### **3.3. Svitlana Pylypenko. MEDIA FUNDAMENTALISM AS A CHALLENGE OF INFORMATION MODERNITY**

The article is devoted to the media fundamentalism situation of information modernity. It is noted that new forms of social interaction, social control and social change are emerging. It is emphasized that a new communication organization is being formed, which becomes the principle of the society organization. It is shown that media fundamentalism is associated both with the intensive introduction and interweaving of modern information technologies, and with the high-speed spread of local and global networks. All this creates a new quality of information exchange and a new toolkit for influencing a person and society. Social reality introduces itself as a media reality.

#### 3.4. Larysa Abyzova, Julia Kharchenko, Olena Karanfilova. ANTHROPOLOGICAL MEASUREMENTS DIMENSIONS OF THE INFORMATION ERA

The article is aimed at investigating of the social and ontological measurements of the image of an individual in the information society. New manifestations of the existentials of the individual of the cyber society are defined and characterized. These manifestations are based on the syncretism of the irrational and rational components of human existence. The object of the study is the philosophical discourse of thinkers of the late 20th and early 21st centuries. The subject of the article is the study of the image of an individual in the information and communication era. The conceptual and worldview perspective of the critical and creative thinking of the individual is outlined. The authors underline that the new thinking is based on the transcendental system of coordinates formed by the synthesis of existential knowledge and existential faith. The issue received further development of the dangerous dependence of a person in an information society on information technologies and media tools.

#### **3.5. Mariana Baran. ANALYSIS AND DEVELOPMENT OF A SYSTEM FOR MONITORING WEATHER CONDITIONS AND NATURAL PHENOMENA**

Almost all, without exception, people are interested in the weather outside the window of their cozy home, using completely different methods to check its condition. Most of us use modern means for this: smartphones, laptops, tablets, personal computers, etc. All smartphone manufacturers release their own software, which includes pre-installed programs for monitoring weather phenomena. Climate affects human existence, health and future. It is the long-term nature of weather conditions in any particular location. Our climate is changing because of people, and these changes are already having a big impact on society. Therefore, one of the urgent issues is the problem of general systems for monitoring weather conditions, their improvement and elimination of problematic issues that arise during their creation.

#### **3.6.** Serhii Zaiets, Viktoriia Horohsko. OPTIMIZATION OF OPERATIVE TREATMENT OF ACUTE CALCULOUS CHOLECYSTITIS IN PATIENTS WITH COVID-19 RESPIRATORY INFECTION BY USING MODIFIED LAPAROLIFTING DURING LAPAROSCOPIC CHOLECYSTECTOMY

Both in the pre-pandemic and pandemic periods of COVID-19 infection, the most common emergency surgical pathology in patients was acute calculous cholecystitis. In patients with COVID-19 who underwent cholecystectomy, a stressed state of both the coagulation system and kidney function was revealed.

It has been shown that patients with COVID-19 with respiratory disorders require a greater flow of oxygen for mechanical ventilation during surgery, which can lead to the development of the effect of hyperoxia and damage to the lung tissue.

Performing a cholecystectomy, the advantage of using the "gasless laparoscopy" method in the presence of respiratory disorders in patients with COVID-19 has been shown, which allows to reduce the need to increase the peak pressure in the pelvis during intubation anesthesia, also in the postoperative period, this method has a positive effect on the patients' need for oxygen to reach the necessary saturation.

### **3.7.** Khrystyna Kolbasova. DETERMINANTS OF THE FORMATION OF NON-VERBAL INTELLIGENCE OF OLDER PRESCHOOL CHILDREN WITH COCHLEAR IMPLANTS

The article substantiates scientific research and the main determinants of the formation of non-verbal intelligence of older preschool children with cochlear implants. The main theories of non-verbal intelligence are characterized and its structure is defined. The possibilities and prerequisites for the formation of non-verbal intelligence of older preschool children as a certain psychological phenomenon, a neoplasm of this age, which is formed depending on social and personal factors, are analyzed. The need for purposeful development of the components of non-verbal intelligence of older preschoolers with cochlear implants as factors contributing to their personal growth has been proven.

### **3.8. Marta Mashevska. THE RISK OF MAN-MADE DISASTERS ASSESSMENT BASED ON THE FUZZY LOGIC MODEL**

The effectiveness of activities in the field of reducing the risks of man-made disasters, as well as reducing their scale, is determined by the quality of monitoring and assessment of the probable danger level. In the proposed article, an analysis and justified selection of the main factors and adverse conditions of extraordinary man-made situations is performed to build a model for assessing the risk of their occurrence. A base of logical derivation rules for a fuzzy risk assessment model of man-made disasters has been formed. The developed model was implemented and tested with the help of a neurofuzzy controller, which input was a statistical data from previous reporting periods regarding the prerequisites and consequences of man-made emergencies.

### **3.9. Liudmyla Opanasenko. PSYCHOLOGICAL TECHNIQUE FOR WORKING WITH INTERNAL AND EXTERNAL RESOURCES "POINTS OF SUPPORT"**

The article presents the author's technique for working with internal and external resources of "Points of support". The technique is aimed at finding, restoring, and resourcing a personality that is suffering from uncertainty, fatigue, exhaustion, or devastation. The author reveals the methodological features of this psychological tool in working with clients over 16 years old in the conditions of military operations on the territory of Ukraine. Special attention is focused on the stages of work with the "Points of support" technique (inclusion in work, work with the body, work with emotions, work with social contacts, work with activities) and the main results of the development approbation at the Center for Social and Psychological Support of Teachers and Students. The study identified the advantages of the "Points of support" technique and general recommendations for its implementation in psychological practice.

### **3.10. Iryna Ostopolets, Oksana Bespalova, Andriy Zaika. ADDICTION TO GADGETS AS A VARIETY OF ADDICTIVE BEHAVIOR AMONG ADOLESCENTS**

The article deals with the concept of mobile addiction and addictive behavior and the causes of their occurrence in adolescent pupils. Varieties of mobile phone addiction and their signs in the behavioral manifestations of schoolchildren are revealed. The results of empirical studies of high school pupils are described regarding their propensity for gadget-dependent behavior and features of phone use in everyday life. The necessity of continuing the research and obtaining additional data for the purpose of developing preventive and corrective and therapeutic work with pupils has been proved.

### 3.11. Artem Ruban, Nina Rashkevich, Victoria Otrosh. SOFTWARE SIMULATION OF THE EVACUATION OF PEOPLE IN CASE OF FIRE PATHFINDER

One of the main factors in ensuring the safety of people's lives is the correctly executed calculation of the evacuation of people from premises. Because, according to the analysis of statistical data on fires, the main part of those who died during a fire are people who were poisoned by toxic substances. combustion products. Scientific articles have been developed, which highlight the problems of evacuation during various emergency situations and the latest methods, methods and strategies. Computer modelling was carried out regarding the actual time of evacuation of a complete property complex of industrial and domestic objects with administrative premises. These calculations were carried out in accordance with the recommendations and instructions for using the Pathfinder software complex. The two most likely fire scenarios were calculated. The use of the Pathfinder software complex allows you to simulate evacuation in various buildings and premises, it is possible to set up a specific calculation with all possible factors: simulation of the evacuation of people with disabilities; the ability to set and adjust the speed of agents on different sections of the evacuation route; the presence of a function that regulates the beginning of the movement of agents in a given behaviour, etc.

### 3.12. Oleksandr Khoroshev. SOME PROBLEMS OF CHARITY IN THE CITY OF KHARKIV IN THE LATE 19TH AND EARLY 20TH CENTURY

The article analyzes and attempts to generalize the historical experience of the charity formation and development in Kharkiv in the late 19th and early 20th century. It also scrutinizes the basic forms and methods of some charitable societies in the city. The author introduces into scientific circulation new, still unexplored historical sources, namely the Charters of several Kharkiv charitable societies and recalls the names of some local philanthropists who have fallen into unmerited oblivion yet deserve the memory of their posterity. When writing the article, the author used comparative and descriptive methods as well as systemic analysis and synthesis of historical material.

## **3.13. Iryna Sokolova, Viacheslav Zavorotnyi. PSYCHOLOGICAL AND PSYCHIATRIC CONSEQUENCES OF THE HYBRID WAR IN THE EAST OF UKRAINE IN MILITARY SERVANTS**

The purpose of the study is a theoretical and practical analysis of the psychological and psychiatric consequences of the hybrid war in the east of Ukraine, the general and specific characteristics of hybrid wars, in particular the stage of using information technologies, which are of a pronounced destructive nature.

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