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CULTURAL RELATIONS, CULTURAL HERITAGE AND CULTURAL DIVERSITY: IN THE CONTEXT OF AZERBAIJAN AND BELARUS

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Today, the terms of 'culture', 'heritage' and 'diversity' are one of the major factors of modern social development. Hereby culture is focused on identification of social development based on tolerance, creativity and knowledge. This research aims to provide an overview of the culture, cultural heritage and cultural diversity in Belarus and Azerbaijan and to identify the most important areas of social and economic development, taking into account the interests of local actors and latest European approaches. To the various international approaches and experiences, culture is main part of economic development in our life. According to my research analyzes, I will try to find how heritage and diversity should primarily be used to develop the social, economic and cultural domains, improve the quality of life in the context of Azerbaijan and Belarus. The article consists of explainations about the understanding of culture, cultural heritage and diversity, the analysis of how culture, cultural heritage and diversity affect the economic development, what role they play in economic development of Azerbaijan and Belarus. The article can stand in as a useful resource for different international researchers, scientists and experts who conduct research related to this topic.

Introduction. Today we often meet the term "cultural relations" in our daily life. We use cultural relations between states or bilateral/multilateral cultural relations among states. In this rsearch we will try to explain the value of cultural relations in the context of 2 different countries. The research aims to build a better understanding of the impact and value of cultural relations in terms of their ability to make varieties, relevant to supporting prosperity and stability in societies that are going through substantial changes.

As we know, today's workplace is diverse. Hereby, one of the main purposes of this research is to provide a reseacher, experts and other concerned parties with understanding and skills for effective communication with people from other cultures. Effective communication with different people within one culture or more cultures requires similar skills and knowledge. In general, cultural diversity is also expressed in the increasing internationalization of business. To move forward in the modern workplace, you must be able to effectively treat people from various cultural groups within and outside her or his country.

On the other hand, the research focused to clarify the cultural heritage sector in the context of Azerbaijan and Belarus and to identify the most important areas of their social development. Heritage is what communities themselves agree to regard as such. In this regard, we will try to identify a shift in heritage-related issues from discussing them purely from the perspective of cultural studies, historical and artistic themes to tackling pragmatics of sustainable development, and raise the issue of setting up a new research about the impact of heritage on society. However, the review does not include the analysis of the technical support for heritage protection, or the work of educational institutions that train personnel in this field, or methods used to preserve, rehabilitate and promote heritage.

1. Understanding of cultural relations, cultural diversity and cultural heritage

Today's cultural relations take place in a context of weakness and risks that further control any nation-state more and more and make cooperation in international relations more necessary than ever. Instead of using simplex approaches, but through cultural relations – trust and mutual understanding can be built that will help to solve these problems. There is no general agreement on what cultural relations are. Various national organizations of cultural relations understand cultural relations through different lenses.

Moreover, culture can participate as a part of foreign policy of the country: the organization and function of cultural policy is an assignment, which is given to the foreign policy winding up [1, p. 215; 2, p. 409], is also understood as the cultural diplomacy between different nations [3, ch. 1.].

The term «cultural relations» refers to interventions in foreign cultural arenas with the aim of increasing intercultural dialogue and bringing about mutual benefits connected to stability, prosperity and security. Just as

there is no common definition of cultural relations, there is no one correct approach to good cultural relations, or simple method of evaluating cultural relations.

Practitioners face very different cultural and geopolitical contexts. Good cultural relations necessarily involve flexibly adapting programs in ways that resonate with these contexts. Assessing the value of cultural relations in different countries and for different actors requires a range of methodologies that consider diverse perspectives.

Cultural relations are understood as reciprocal transnational interactions between two or more cultures, encompassing a range of activities conducted by state and/or non-state actors within the space of culture and civil society. The overall outcomes of cultural relations are greater connectivity, better mutual understanding, more and deeper relationships, mutually beneficial transactions and enhanced sustainable dialogue between people and cultures, shaped through engagement and attraction rather than coercion.

Attempts to assess the value of cultural relations from the perspectives of the countries that practise them can be instrumentalist and reductive. Such attempts can miss the richness of the ways cultural relations work in practice. They are also of limited use at evaluating which forms of cultural relations work best in which contexts, and at predicting the likely outcomes of different interventions, or at suggesting ways how these interventions can be improved.

To evaluate diversity, each person must go beyond treating and tolerating people fairly from various racial and ethnic groups. The true meaning of diversity is to venerate and enjoy a wide range of individual and cultural varieties. To be diverse means to be various in some measurable way even if the varieties are not clear on the surface. The diversity umbrella is presumed to include everybody in an organization. The value of diversity lies in the evaluation of individual varieties among people. The goal of a diverse organization is for people of all cultural backgrounds to obtain their full potential, not measured by group identities such as nationality, sex, or race.

Heritage is not a thing but a process. It means a constant choice between values that must be made at all times. Cultural heritage is an expression of the ways of living developed by a community and passed on from generation to generation, including places, customs, objects, practices, values, and artistic expressions.

Previously, cultural heritage was seen as a source of income. Recognizing culture as a dynamic and transformative force, they seek to explore culture as an indicator and facilitator of social development. Today, its role as an active agent of social transformation has been increasingly recognized [13].

In general, the point of view is that, nevertheless, cultural relations, cultural diversity and cultural heritage can help in establishing and facilitating working contacts between countries, it depends heavily on the complex points of laws and bilateral negotiations, agreements, military capabilities and multilateral structures.

2. Cultural diversity and cultural heritage of Belarus

In Belarus 130 ethnic and confessional groups carry out activities relating to preservation, popularization and development of their own cultural heritage.

Belarus is a country with a clearly defined ethnic majority – Belarusians and numerous ethnic minorities such as Ukrainians, Poles, gypsies, the Azerbaijani and others. The proportion of ethnic Belarusians is 84 percent; the largest minority – Russians – constitute about 8 percent according to the 2009 Census. There are about 200 ethnicity-based NGOs countrywide, and ethnic diversity is present in public institutions. Belarus is legally bilingual; however, one of the two state languages – Russian – dominates the public and even private spheres to the detriment of Belarusian. There are occasional manifestations of hate speech and xenophobia against migrants and foreign students; there has been tension and controversy around certain minority organizations, primarily of the Polish minority. To wrap up, formally and substantively, basic features of ethno-politics in Belarus are comparable with those of the neighboring countries. The dominance of the Russian language in public life in general or some of its segments is still a feature of several post-Soviet countries, and Belarus is not unique in this regard.

The historical and cultural heritage of Belarus includes 5,553 historical and cultural assets, including 5,352 tangible immovable assets, of which 1,820 are sites of architecture and urban planning, 2,263 archaeology, 62 art, 1,203 history, and 89 tangible movable assets, and 112 intangible historical and cultural assets. Belarus is included in the UNESCO World Heritage List through the Mir and Nesvizh castles, Białowieża Forest and the Struve Geodetic Arc. The intangible heritage is represented in UNESCO by the rite of the Kolyady (Christmas) Tsars. The tentative list submitted by the authorities includes several sites including Praspiekt Niezaliežnasci (Independence avenue) in Minsk, the Augustow Canal (19th c.), the Tower of Kamenets (1271–1288), and the St. Sophia Cathedral in Polatsk (1030– 1060) [12].

Cultural heritage like many other sectors in Belarus can be described as rather impervious to external influence especially with regard to cultural trends that do not originate in the Russian-speaking world. New important texts on heritage theory have not been translated and contact with key European intellectual centres has been lost. There is an urgent need to create an association of Belarusian experts which would be integrated into the international context. Many important concepts are absent from national legislation such as "cultural landscape", "heritage community" and "historical city". There is no separate legal framework for intangible heritage.

Five main problems and challenges for the sector:

1. There is no institutionalized agents in Belarus that can think about using the social, economic and cultural potentials of heritage. There is a need for both critical re-thinking of existing trends and developments and decision-making with regard to heritage management based on research rather than on ideology or even values.

2. There is a high degree of conflict between actors over heritage: between grassroots initiatives and executive power bodies; grassroots initiatives and business; and grassroots initiatives and restorers. It is necessary therefore to develop models for sustainable cooperation and exchange between NGOs and state institutions for a joint resolution of problems relating to the sector's development.

3. Work with heritage is still perceived as "charitable" or a social and cultural obligation. Heritage is not recognized as a driver of the development of territories, with great potential for inter-sectoral cooperation. It is necessary to make ways of including heritage in economic relations more sophisticated and diversify them and to enrich rehabilitation/museum projects with goals aiming for economic and social development.

4. There is evidence of the remnants of paternalistic Soviet models of heritage protection. It is necessary to continue development of civil society and state partnerships, to build the capacity of regional civil society organizations and government institutions to a level that would allow the generation of qualitative heritage-related projects relevant to development goals, to work with specific heritage communities and take into account their opinions, to depart from the edifying nature of most activities relating to the discussion of the cultural heritage issue, to promote social inclusion.

5. Intangible cultural heritage in Belarus is predominantly mono-ethnic, traditional and rural. The heritage of other ethnic groups and the heritage of urban cultures are under-represented. It is essential to diversify heritage and to use it for the development of the interregional, intercultural, and international exchange.

Belarus has little experience in using heritage successfully as a tool for developing individual towns and regions. There are examples of successful business and productive intersectional cooperation in projects focusing on heritage use (primarily agro-tourism and ecotourism); there is an experience in attracting grant or sponsorship funds. The successful practice listed in this report is the evidence of the existence of a small group of experts and professionals with experience in solving new development-oriented problems. There are also several platforms for successful experience exchange in terms of implementing the economic potential of heritage.

Heritage is also a means of intercultural communication. This has been repeatedly stated at the governmental level. The International Traditional Culture Forum has been held in Mogilev since 2012. Specialists of traditional culture from over ten countries take part in the event: Belarus, Russia, Italy, Turkey, Estonia, and other states [13].

3. Cultural relations, cultural diversity and cultural heritage in economic development of Azerbaijan

Cultural diversity and pluralism represent one of the most important factors of culture. Since ancient times Azerbaijan has been known as the homeland for diverse peoples and cultures. On the one hand, this land served as a kind of bridge between the Eastern culture and, on the other hand, with the world, European culture. For multinational, poly-confessional, multilingual Azerbaijan, this ideology is put forward by the historical reality itself.

In Azerbaijan throughout all periods of history with a diverse national and ethnic structure, there are real sources of this diversity. The relations of dozens of ethnic and religious communities living in Azerbaijan have caused the unity of a number of their cultures – their folklore, dialects, customs, life, the system of religion, etc.

After gaining independence from the Soviet Union, ethnic minorities in Azerbaijan began to create their own cultural centres to preserve their historical and cultural customs and traditions. As a result, today dozens of national cultural centres function in Azerbaijan. The Ministry of Culture and Tourism of the Azerbaijan Republic takes active part in the programs to promote "cultural diversity" realized under the auspices of UNESCO, the Council of Europe and OSCE. The Ministry of Culture and Tourism realizes a project titled "Cultural Diversity of Azerbaijan" [17].

The Azerbaijani people consist of the Azerbaijanis constituting the main part of the public of the country and 30 nations and ethnic groups, which are densely populated in various regions of the country. All these people, regardless of their number, language, or religion are equal citizens of Azerbaijan.

There are good cultural relations between Azerbaijan and Belarus. Thus, the two countries held a variety of bilateral and international cultural events (including international competitions of vocalists called Bulbul, International film festivals of The East and The West). Hence, several Belarusian cultural days were organized in Azerbaijan. Besides, different cooperation agreements were signed between the two countries. In this regard, the Government of the Republic of Azerbaijan and the Government of the Republic of Belarus has signed the Agreement on cooperation in the fight against the laundering of cultural wealth and their returning.

Present day, Baku organizes the main important international summits, events and conferences to discuss important tasks of the modern period and cooperation. Some of them are the Global Open Society Forum, the Davos Economic Forum, Baku Humanitarian Forum, Intercultural Dialogue Forum, the World Summit of Religious Leaders, Eurovision song contest, the World Youth Forum, the 3rd Forum on Intercultural Dialogue, Baku 2015 European Games, the 7th Global Forum of the United Nations Alliance of Civilizations, and other international important events.

The Azerbaijani government has taken measures, both on the international and national levels, which are aimed at promoting inter-cultural dialogue. These measures will contribute to the prestige of our country on the international arena, will strengthen the national solidarity of our people, and will represent our country in the international community as a space of mutual enrichment of national cultures. Today, Azerbaijan occupies one of the leading places among the world countries where there is no place for discrimination of anyone belonging to any ethnic minority or vice versa. To sum up, the national policy pursued by the Azerbaijani government shows that people can live in peace and friendship, and from this point of view, our country is a vivid example for the whole world.

Conclusion. Replying to the question of what makes increase happen, most economists describe these inequalities in detail, referring to a list of terms that must be fulfilled for the development of the economy.

There is a need to create an organization for the introduction of new thinking in connection with the use of the social, economic and cultural heritage potential by disseminating information on foreign and Belarusian best practices, cure the nature of programming and the synergy of implemented projects, ensure horizontal communication among sector participants, monitor conflicts, organize methodological seminars and research. Also adjust the performance indicators of state cultural institutions and the Ministry of Culture, include indicators related to public and public organizations / initiatives of organizations in their work, grant events, the establishment of interregional and international relations, etc. We need to develop models of sustainable cooperation between local non-governmental and governmental organizations in attracting grants for carrying out various work with heritage.

The research showed that explanation of cultural relations, cultural diversity and cultural heritage, the connection of them, helps to determine the influence of culture on economic development, their role in the economic development of Azerbaijan and Belarus.

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INTELLECTUAL MIGRATION IN THE CONTEXT OF THE DEVELOPMENT OF ECONOMIC RELATIONS BETWEEN BELARUS AND RUSSIA

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In this article we tried to systematize the main theoretical approaches to the study of migration processes of domestic and foreign authors; to conduct social and economic analysis of the categories "migration", "labour migration", "international external labour migration"; to collect analytical data in order to assess the state of the labour market in the Republic of Belarus; to review normative and legal documents regulating the processes of labour migration in the Republic of Belarus.

Introduction. The urgency of studying various aspects of migration processes is associated with the growth of their influence on world and national economies, politics, culture, and social phenomena. For countries, this problem is represented by both external and internal migration. They differ significantly. Internal migration is nothing more than the movement of the working population within Russia. State legislation and by-laws are the basis for the implementation of quality control of this process. External or international labour migration is not a migration within the state, but a mass migration of people outside the country or a visit to a country whose main purpose is to get a job with prestigious or more highly paid jobs with the possibility of permanent residence.

The reason is the uneven economic development of regions, differences in the level and quality of life in different parts of the country. In case of a lack of satisfaction with the opportunities to implement motives, goals and values in the actual place of residence the person experiences a state of frustration (encountering any obstacles, one can't achieve his goals, and satisfaction of any desire or need becomes impossible). One of the possible reactions to this state is the formation of migratory intentions (attitudes). At the same time, with the current trends of international migration, there is a potential danger for countries to permanently lose some of their most qualified specialists.

Main part. The problem of "brain drain" is very relevant in many countries. Highly qualified specialists are increasingly eager to leave the country in the hope of finding an application for their abilities and skills. Russians are also eager to move to another country in order to find a higher-paying job and permanent residence. Experienced, skilled personnel strive to capitalize their abilities, expanding opportunities to engage in scientific research or new developments, to participate in international projects, to supply their products to a large territory... According to the statistics department, most Russian emigrants, as a rule, go to the US, Germany, Canada and Finland [1].

As the President of the Russian Federation states: "there is a catastrophic lack of not just workers, but well-trained specialists in working professions in the country". In his opinion, the new knowledge "is quickly realized in practice, that if we do not want to be left behind, we should always engage in self-training and self-study." As the president noted, the existing system of training workers is not in demand, it is necessary to update it. At the moment, a large training system is being developed in the country.

Migratory intentions (attitudes) are largely determined by the inclusion of a person in social groups of different scale (small and large groups) in one or another place of residence. From the point of view of S. Kuznetsova they are formed under the influence of a microsocial environment (parental influence on children) and macrosocial, that is, a wider social environment. Migration intentions are determined by the satisfaction with the place of residence, which is determined by the comparison of the conditions of different places of residence (actual and potential), which is provided by migration experience or acquaintance with other places. Inclusion in a particular social environment forms specific adaptation strategies, including migration as a means of solving problems. These strategies are qualitatively different depending on personal characteristics and predominant motivation (relatively speaking, from the pursuit of success or avoidance of failure). Of course, social comparison is one of the important mechanisms of social cognition. Place of residence can't be estimated by a person, regardless of knowledge or ideas about other places. In the modern information society, with intensive movements with professional and tourist purposes, the space for comparison covers the whole world, but the personality narrows it to potentially possible places of residence, which he compares to each other [2, p. 38].

In the framework of the study by Sophia Wright "Attractiveness of the Territory and Migratory Institutions of Students" (Cand. Sociol., Assoc. Prof. Mosienko N.L.), the following characteristics of the individual's migration settings were distinguished:

1. the presence / awareness of migratory attitudes – the individual has decided whether or not he wants to leave the territory;

2. the orientation of migration installations – where the individual would like to live;

3. the formation of migration facilities. This characteristic can be manifested in three aspects:

– the individual wants to leave, but does not have a clear idea of where, how it will happen, what the result will be (low degree of formation);
– the individual wants to leave and can give an approximate plan of action regarding how he will realize his desire (average degree of formation);
– first steps have been taken, for example, searching for information, or contacts, obtaining a visa, etc. (high degree of formation) [3].

The disintegration of the USSR and interethnic conflicts in a number of CIS (Commonwealth of Independent States) republics caused migration waves, which also affected Russia. In Russia, the process of labour migration begins with the assessment of labour requirements and the establishment of quotas for the employment of migrants from countries with a visa-free regime (CIS countries except Turkmenistan) and with a visa regime [4].

Belarus also faced the customs union of the countries of the Eurasian Economic Union with intellectual migration. Thanks to the openness of the border within the customs union and the development of the labour market, the Belarusian people are offered more opportunities to implement their skills and to improve their qualifications, as well as to find better-paying jobs. That is why the problem of "brain drain" is very relevant for Belarus.

The Ministry of Labour of Russia has prepared a draft resolution of the Government of the Russian Federation "On the definition of the need to attract foreign workers arriving in the Russian Federation on the basis of a visa, including on priority vocational qualification groups, and the approval of quotas for 2018".

The need is determined on the basis of proposals of the executive bodies of state power of the constituent entities of the Russian Federation and is formed taking into account the prevailing situation in the labour market, demographic situation, the principle of priority use of national labour resources, and the opportunities for settling foreign citizens.

The main reasons for attracting foreign workers to the Russian Federation are:

1) implementation of investment projects with the participation of foreign capital;

2) the use of imported technological equipment, which is in need of installation, adjustment and maintenance by qualified foreign specialists;

3) use of modern technologies in construction, compliance with the quality and timing of construction works;

4) the lack of personnel with the required qualifications in the territory of the subject of the Russian Federation.

Primarily, the need for foreign workers is available in the replacement of jobs that require the availability of professional qualifications. The distribution of the need to attract foreign workers to the Russian Federation by priority vocational qualification groups reflects the trends in the development of the labour market, accompanied by the need to attract skilled labour.

Corresponding volumes of quota will allow to satisfy the demand of employers in qualified employees, to realize investment projects [5].

In Belarus, in its turn, the migration policy is aimed at attracting mostly highly skilled personnel. We can say that Belarus does not want to repeat Russia's mistakes. The country cannot control the outflow of personnel (it can't prohibit leaving the country), but it can regulate the influx of migrants. Thus, determining how many highly skilled workers arrived in a given year.

But this does not exclude the fact that the bulk of Belarusians leave for Russia, and less often for other countries. Russia is attractive for Belarusians in that they can freely move the border. In Russia, from the point of view of Belarusians, more jobs and opportunities. Such an influx of Belarusians, in our view, adversely affects Russia's migration policy. After all, most of the migrants are people with a secondary education, seeking to find a more lucrative job.

Despite the rather difficult conditions prevailing in the country, Russia still remains attractive for migrants. Basically, this is a visitor from the less well-off CIS countries.

The country is also keenly studying the issue of internal labour migration, which is connected with the search for better working conditions and payment for own labour. Departure of a large number of people from small towns caused an acute shortage of highly qualified personnel, so many citizens had a real chance to get a decent job than is possible in their hometown. Its payment is sometimes three to five times greater [4].

But there is another side to it. Departure of a large number of people from centres such as Moscow and St. Petersburg, leads to a shortage of highly skilled employees. Although the conditions and salaries are no worse than in the capital. But people are increasingly attracted to the city, as they see it, with more opportunities.

This question has not passed Belarus. Many Belarusians have been seeking to move to regional centres. Basically, everyone wants to move to the capital. In our opinion, this is due to a rather poor mobility of small towns. The attractiveness of the regional centres in their greater number of places of work and residence, in a greater amount of opportunities and gaining knowledge, as well as advanced training. The most important reason for internal migration in Belarus is education. Many teenagers leave to receive higher education in other cities and subsequently remain in them. As a result, outflow of labour occurs with small towns, urban-type settlements and villages.

The conclusion. The peculiarity of migration facilities is a biographical scale based on their behaviour. Little or nothing is known about the full diversity and complexity of international youth migration. The available data are very scarce due to the fact that for many years they believed that migrants are men of working age. It was believed that women and young people migrate only as family members. Young people, as a rule, remain outside the field of research, but experts acknowledge that the majority of migrants are at the age of 15 to 30 years old, both in the past and at the present time.

Intellectual migration, represented by highly qualified personnel, scientists, and specialists, has now been formed as a global phenomenon. Thus, among the diversity of territorial movements within the framework of international youth migration, intellectual migration deserves special attention due to the high level of mobility among young people and the significance of the phenomenon of "brain drain" in the development of the world community.

Migration facilities are more likely to be formed in subjects ready for active, determined constructive actions to change the unsatisfactory situation, taking into account the needs, opinions and expectations of the immediate environment, ready for cooperation and seeking social support. However, the links of migration facilities with active methods of overcoming have not been revealed. This means that the activity inherent in the subject does not necessarily imply a desire for relocation and can be implemented at the actual place of residence.

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EVALUATION OF MOTOR TRANSPORT SERVICE COMPETITIVENESS

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The article presents the analysis of the main methods of evaluation of motor transport service competitiveness, lists the main approaches to determining the factors of motor transport service competitiveness and the methods for calculating the complex index of competitiveness.

The development of the transport service market, the increase in the number of carriers leads to the fact that the shipper faces the task of selecting the most optimal variant of transport services. This, in its turn, leads to the need for a qualitative evaluation of the transport services provided. Transport companies also need to appraise the competitiveness of their services in order to determine the direction of further development of the organization and the service provided, and to establish tariffs for services.

Competitiveness is the ability of a service to withstand another similar service on the market in terms of the totality of its qualitative and cost characteristics, from the point of view of specific consumers [1, p. 23].

Competitiveness can be viewed from a theoretical point of view as the efficiency level of the application of economic resources by an economic entity in comparison with their use by competitors.

Differential and multipronged methods are used to appraise the service competitiveness.

The differential method is based on the use of single indicators. This method allows you to determine whether the level of competitiveness taken as a whole is achieved or not, by what criteria it has not been achieved, and in what criteria there is the greatest deviation [2, p. 108].

The multipronged method is based on the use of single, group and integral indicators. The method provides a generalized evaluation of the level of service competitiveness in general and at the expense of each factor. There are the following varieties of the multipronged method [2, p. 108]:

- analytical: Rosenberg's model and ideal point model, model based on sales volume, integral index, etc.;
- graphic: BKG matrix, M. Porter matrix, market attractiveness models, competitiveness polygon, etc.

The calculation of the integral indicator (a variety of a multipronged method) is mainly used to appraise the competitiveness of motor transport services. The simplest method is the sum of seats. The implementation of this method assumes the determination of the main factors of the formation of competitiveness and assumes evaluation their rating for the aggregate of the compared objects. The sum of ranking score for all factors determines the overall rating, and, consequently, the level of competitiveness of services. Disadvantages of the method are: subjectivism in the justification of the factors and their ranking score, a lack of consideration of the significance of service characteristics.

For an objective evaluation of service competitiveness, the motor company must use the criteria that shippers use. This will take into account the opinion of cargo owners in evaluation of motor transport service competitiveness. To do this, it is necessary to determine the main parameters on the basis of which the shipper will choose the motor transport enterprise and its services. Moreover, the company should evaluate the possibility of selling its services on a certain market: calculate the market capacity and prospects for the implementation of its services. The market share that an enterprise can occupy will directly influence the level of its competitiveness. In addition, there are other factors that determine the motor transport service competitiveness.

E.V. Budrina considers that the motor transport service competitiveness is determined by the level of the cost of services and the level of their quality [3, p. 169]. In her opinion, the reduction of the cost price and the improvement of the quality of transportation of specific goods and passengers are the most important areas for increasing the motor transport service competitiveness.

Reduction of the carrier cost can be achieved by saving fuel, spare parts, tires, enhancing the performance indicators of motor transport.

The competitiveness of cargo transportation involves the delivery of cargo exactly at a fixed time, with high safety of the quantity and properties of the transported goods. When transporting passengers, the service competitiveness is determined by its implementation according to the traffic schedule and the level of comfort (convenience) that the carrier can provide to his passengers. Thus, the quality of the provided transport services is also an important factor in achieving their competitiveness.

N.V. Penshin upholds a similar position. In his opinion, competitiveness is determined by the costs of use, by quality and cost criteria (values) of motor transport services, which are comprehensively "evaluated" by the consumer in terms of significance, satisfaction. The set of properties of motor transport services, which is characterized by qualitative and cost parameters, represents the basic elements of the services competitiveness. Quality and price are the main components of the motor transport service competitiveness. The author points out that the analysis of the dynamics of motor transport services has revealed a trend in which price competition is gradually inferior to the quality of services [4, p. 651].

The quality of motor transport services is an essential property that is evaluated by the system of technical and economic indicators. These indicators distinguish them from other similar purposes, which determine the degree of satisfaction of needs and demand in market conditions.

There are specific quality levels taken into account for each type of motor transport services. They are recognized by the methods of solving practical problems for the achievement of specific goals: timeliness and safety of transportation, the safety of the transported goods, the reduction of the costs of the transportation process, the guarantee of high quality of passenger transportation, the expansion of the tertiary sector of motor transport services [5, p. 204].

N.V. Popova has presented a list of factors of motor transport service competitiveness divided into three groups [6, p. 76]:

- technical (parameters of compliance with the purpose, regulatory parameters, environmental parameters, etc.);
- economic (fare level, profitability);
- organizational (providing services by the due date, goods safety, transportation security).

S.M. Abalonin adduces a similar classification, but the author identifies social dimensions that are characterized by taking into account the social structure of consumers, fashion, shifts in consumption patterns, national characteristics in the organization of production, advertising, marketing, and service separately. There can be taken into account the tendencies of changes in external factors: the economy, market conditions, scientific and technological progress, the sudden emergence or withdrawal of competitors from the market [7, p. 23].

A.S. Bondarenko suggests the selection of competitiveness factors by two-way arrangement: the stages of production and sale of services, and the place of formation [2, p. 109].

The following options can be used to represent the composite indicator of motor transport service competitiveness.

1. The composite indicator of competitiveness is presented as a sum (K) [8, p. 122]:

$$K = \sum_{i=1}^{N} K_i, \quad (1)$$

where K_i is a single indicator of service competitiveness with a total of N.

Relative values that are obtained by dividing the values of definable indicators by the maximum values or corresponding indicators for the service of the most powerful competitor can also serve as single indicators of service competitiveness. In this case, the composite indicator calculated according to formula (1) will reflect the competitiveness level of the motor transport service in relation to the competitor's service. This method is simple in calculating, but it does not take into account the degree of impact of single indicators on competitiveness.

2. Comprehensive indicator of competitiveness is represented in the form of an average measured arithmetic indicator of single indicators of competitiveness [8, p. 122]:

$$K = \sum_{i=1}^{N} W_i K_i, \quad (2)$$

where K_i is a single indicator of service competitiveness with a total of N;

W_i is an indicator of the importance factor (weight number) of i, the single indicator of competitiveness.

The normalized values of individual competitiveness indicators are often used in practice, i.e. their value is equal to one. Then the composite indicator of competitiveness is evaluated by the same measurement scale as the single indicators are. This approach to determining the composite indicator of competitiveness suggest using A. Thompson Jr. and A. J. Strickland, E. Golubkov, and other authors.

3. The composite indicator of competitiveness is represented as the multiplication of single indicators:

$$K = \prod_{i=1}^{N} K_i, \quad (3)$$

Single indicators in this case often take into account the regulatory parameters and take only two values: one if the service corresponds to the norm, or zero if it does not. Therefore, if at least one indicator is equal to zero, the service is completely uncompetitive in this market and further consideration of competitiveness does not make sense.

4. The integral indicator of service competitiveness in relation to the service-sample is calculated by the formula [9, p. 220]:

$$K = \frac{J_{r.p.} J_{t.p.}}{J_{e.p.}}, \quad (4)$$

where $J_{r.p.}$, $J_{t.p.}$, $J_{e.p.}$ are group indicators according to regulatory, technical and economic parameters.

In this case, if $K < 1$ then the analyzed service is inferior to the benchmark, and if $K > 1$ – the service exceeds the benchmark of competitiveness, if $K = 1$ then competitiveness corresponds to the benchmark.

Summing up what has been said, the methods to assess the motor transport service competitiveness and its effectiveness depend on the combination of factors that are used for evaluation and the way the integral indicator is calculated.

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ANALYSIS OF TECHNOLOGICAL INNOVATIONS IN THE INDUSTRY BASED ON INFORMATION TECHNOLOGIES

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In this article we analyze modern ICT technologies that are "breakthrough" for traditional industries in the issue of productivity and enterprise management.

The industry of information and communication technologies (ICT), or information technology (IT), is one of the fastest growing industry in the world economy. It is not the only instrument that actively promotes the economy to a higher level, but it is also a sector that has significantly changed the economic processes in large basic industries. This sphere continues to influence the formation of information of a new type based on the use of information and products of intellectual labour rights.

The achieved level of development of information technologies in the scientific and technical spheres can be assessed by comparing the position of Belarus with the indicators of other countries in the ICT Development Index (IDI), Table 1 [International Telecommunications Union, Measuring the Information Society Report 2015]. This index is used to track the development of local ICT structures in comparison with other countries, the performance of developed and developing countries in this area and to assess the potential of IT development [6].

Table 1 – ICT Development Index, 2015 (rank change from IDI 2010)

Economy	IDI		ICT Access		ICT Use		ICT Skills	
	Rank	Index	Rank	Index	Rank	Index	Rank	Index
Korea (Rep.)	1	8.93	9	9.00	4	8.42	2	9.82
Denmark	2	8.88	13	8.72	1	8.83	12	9.29
Iceland	3	8.86	2	9.37	8	8.11	10	9.35
United Kingdom	4	8.75	4	9.24	3	8.42	44	8.42
Sweden	5	8.67	10	8.90	6	8.32	24	8.91
United States	15	8.19	31	7.82	11	7.86	5	9.57
Estonia	20	8.05	28	7.86	14	7.66	15	9.22
Israel	35	7.19	25	7.98	42	5.57	26	8.86
Belarus	36	7.18	38	7.68	47	5.40	4	9.75
Latvia	37	7.16	49	7.23	32	6.29	30	8.76
Lithuania	40	7.08	54	7.04	34	6.10	17	9.13
Poland	44	6.91	51	7.15	41	5.62	20	9.02
Russian Federation	45	6.91	48	7.24	44	5.52	19	9.04
Ukraine	79	5.23	72	6.27	109	2.17	14	9.25

All this testifies to the relevance of the tasks of expanded reproduction of the scientific and technical potential and the optimization of the personnel structure based on the inflow of young specialists and scientists. It is important to ensure further activities in the "breakthrough" areas and to increase the influence of the scientific components in economic growth in the long term.

The development IT computing technic and digital telecommunications has a great impact on other areas of human activity. The basis for the practical application of new digital technologies are traditional industries and activities. The key importance in the integration of the digital environment has priorities of a "breakthrough" character, which form a new quality of the industrial basis of production processes. Such are the technologies of digital production, connecting information flows into a single system for its production, processing, storage and use.

The application of digital production is directed at obtaining complex solutions for the development of "smart production" and at the integration of information and communication technologies for infrastructure management.

The main world technological trends in the digital industry are [1]:

1) the introduction of smart sensors in equipment and production lines (industrial Internet based on the Internet of things);

2) mass introduction of robotic technologies;
3) information storage and computing on servers (cloud technologies);
4) integration of production and management processes into a single information system;
5) big data technology;
6) additive technologies, 3D-printing;
7) automation of services for the order and direct supply of stock (materials, components) to manufactories and finished products – to consumers;
8) application of unmanned technologies;
9) application of mobile technologies for control and management of production processes.

A brief description of these areas allows us to consider the prospects for introducing technological transformations into the national industry.

The Internet of things is networks array, consisting of objects that can cooperate with each other without human intervention, through an IP connection. The feature of the system lies in the stand-alone devices and their ability to transmit data independently. The use of industrial Internet implies the use of the Internet of things in a single industry to create an integrated solution that combines information processes with production [4].

Technologically, the industrial Internet of things includes the following components: devices and sensors that can record events, collect, analyze data and transmit them over the network; a network structure that combines different communication channels; platforms from IT providers, designed to manage devices and communications, applications and analytics; applications and analytical software, responsible for processing data, creating demonstration models and smart device management; storage systems and servers, capable of storing and processing large volumes of various types of information; IT services for creating solutions in the field of industrial Internet, requiring knowledge of the industry and specific business; security solutions that meet not only the information security of all components of the solution, but also the security of the operational process (Fig. 1).

With the development of the industrial Internet of things, it will be possible to increase labour productivity and optimize business processes by integrating IT systems and production systems, reliable data entry and the creation of end-to-end processes for collecting and analyzing information at all stages. The transition to the Internet of things can significantly affect the performance indicator by automating routine processes and reducing the impact of the human factor. The ability to get data from devices in real time allows you to control the execution of business processes and change them depending on the situation without the direct participation of a person.

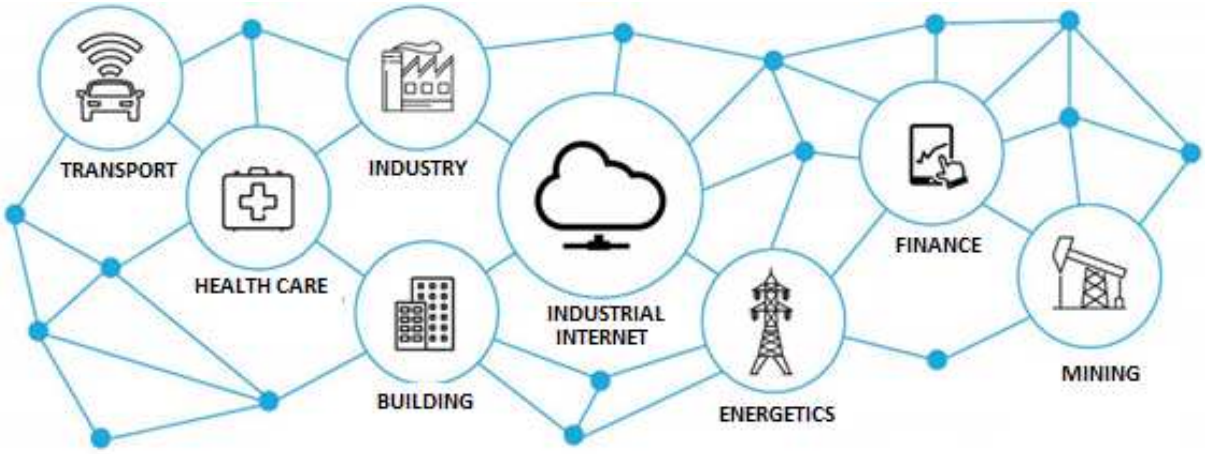

Fig. 1. Several basic options for implementing the Internet of things in the field of activity

Industrial robotization process helps to reduce the influence of the human factor and achieve the best quality and quantity of products due to the accuracy of work and resistance to external factors. Industrial robots are a very flexible tool that allows you to solve many complex and routine tasks such as sorting, packaging, welding, cutting, painting and other processes that require large labour and time costs.

A new trend in the introduction of robots into production are collaborative robots (cobots). Such robots are designed for use not in special fenced areas, as in the case of industrial robots, but in close cooperation with people.

Small advantages of industrial robotization:

1) Reduction of the number of working personnel.
2) Total growth in production and finished products.
3) There is no need to train the working personnel.
4) Utilization of industrial robots in harmful areas of production.
5) Reduction of materials due to high precision of industrial robots.
6) Maintaining of production areas.
7) High technological flexibility of production.
8) Improving the overall quality of products.

The disadvantages of this process can be a large cost of purchase and serving of this equipment and a drastic reduction in workplaces at production site.

The main economic factor that depends on the introduction of robots into production is the reduction of working personnel and the need for highly skilled personnel who would be engaged in the diagnostics, control and service of automated devices. This is a minus in the immediate implementation process, but it has a positive potential to increase highly educated personnel in the future [8].

Cloud technologies is the information technology of distributed data processing in which computer resources and capacities are provided to the user as an Internet service (servers, storage systems, applications).

One of the most common applications of clouds for industrial automation is the deployment of a SCADA system in the cloud. One of the following methods can be used:

1) SCADA-system works in a company and sends information to the cloud, where this information is stored and from where it is provided to all who need it and who are allowed;

2) SCADA-system itself operates in the cloud and remotely controls devices [2].

The main advantages and disadvantages of cloud systems are presented in Table 2.

Table 2 – Advantages and disadvantages of cloud technologies

Advantages	Disadvantages
- Access to personal information from any computer connected to the Internet; - You can work with information from different devices (PCs, tablets, phones, etc.); - One and tinier information can be viewed and edited simultaneously by multiple users from different devices; - Quick access to updated information; - Reduction or even absence of capital expenditures for IT; they are replaced by operating costs; - Flexible payment system for services - as needed; - Transfer or sharing of responsibility with the provider; - Easy to use mobile devices	- High prices of building your own cloud; - The loss of control over IT assets; - The complexity of the integration of services, especially provided by different providers; - No legal basis if there is a need for a well-regulated relationship; - The need for regular audits; - High requirements for IT literacy of users. Dependence on the quality of communication and the availability of the Internet; - Decrease of security layer

The need for competent and relevant business information based on the current state of things in production is reflected in the reduction of both time and financial costs. Therefore, innovative approaches to *the integration of production and management information systems* (IS) in the company are important in the development of advanced IT services.

Integration of information systems is a complex technological process directed at reducing transaction costs, namely the costs of collecting information, increasing the speed of access to it and speeding up its processing, as well as improving the quality of accounting and management in the company. The combination of complex automated systems entails reconfiguring the work of all units, whether they are integrated directly or in one way or another depend on the integrated systems, changing a significant part of the organization's functioning processes and, in some cases, radically changing employee relationships.

Enterprise Resource Planning (ERP) systems allow you to organize a total account of events, providing automatic monitoring of the current status of all processes, equipment and resources throughout the technological and related processes (Fig. 2).

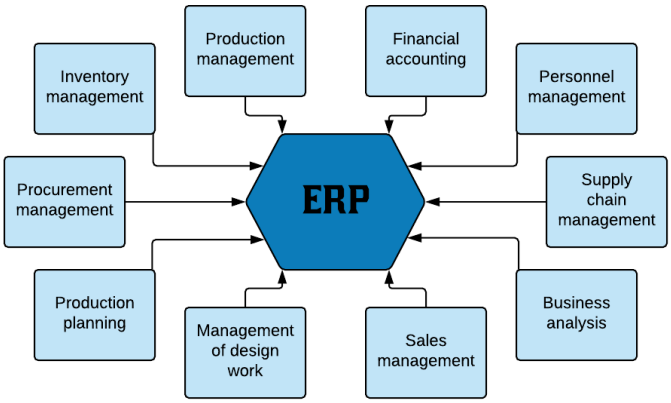

Fig. 2. A variety of tasks that serve information systems

Technically, *the analysis of "Big Data"* is the direction of ICT development, which includes storage technologies and calculations, as well as services such as: combining, organizing, managing and analyzing large amounts of data.

The software provides processing of databases, where these data can be created and updated, perform computational operations and manage received arrays. Among the advanced software that companies use for Big Data Analysis technology, we can distinguish the following: SQL, NoSQL, MapReduce, Hadoop, SAP HANA.

The field of use of Big Data technologies is very extensive. With their help, you can learn about customer preferences, the effectiveness of marketing campaigns or conduct a risk analysis. Most companies use the Big Data in the customer service area, the second most popular direction is operational efficiency [3].

Additive production has long since passed from the category of "emerging technology" into a leading innovation. Additive production is the process of manufacturing a part or an object based on the original digital 3D model by depositing material layer by layer. All stages of the project realization from the idea to the finished product output are in a single technological chain and executed in the digital CAD \ CAM \ CAE system, bypassing the stage of drawing a two-dimensional drawing, a 3D model is immediately constructed and sent to the press.

With the help of additive technologies, it is possible to solve a wide range of production tasks: acceleration of work on the development of experimental design; performance of work on the development of models; rapid prototyping of complex products; small-scale production; functional modeling; rapid production of individual parts; reduction in the cost of design work.

A 3D printer can replace a more expensive CNC machine, and, unlike the latter, will allow the creation of products with an arbitrary internal structure. 3D printing already penetrates most of the key industrial segments, both for creating the tooling and for the production of the final product.

Companies that manage assets located in large areas have long faced the challenges of mobility and high-quality information that can be solved with the help of *unmanned device technologies*. Integration of such devices into the daily operational process will help to create great advantages in the implementation of large-scale capital construction projects, in infrastructure management and in agriculture. And the transport industry will be able to completely change its concept of product delivery [7].

Unmanned aerial vehicles not only can do dangerous works, but also facilitate access to different sets of data for companies, providing high accuracy and low cost of information. Among such industries are the following: energy, road industry, railways.

In the field of Internet trade, when choosing a courier service, the delivery time is paramount. Unmanned devices provide delivery of goods in a short time to a specific, pre-determined location, not requiring a large number of actions from people. Similar concepts are already being actively developed in large companies, such as Amazon and Google, which are currently testing such solutions. In the sphere of delivery of goods, one more trend is gaining popularity: the delivery of spare parts.

Mobile technologies are introduced into industrial complexes, because they can provide full and quick access to important information and applications that ensure the stable operation of the company. Monitoring and management using mobile technologies closely overlap with the industrial Internet of things and cloud technologies.

Technologies of production management and technological processes widely use personal computers that act as a web server. Embedded Web servers can be easily configured as hosts with the Human-Machine

Interface (HMI), which will store production statistics or maintenance information. The managing web server allows the personnel who work with large production lines to change the parameters of the equipment operation using a tablet PC, regardless of the distance from the central control computer. Analytical data obtained from the cloud or directly from the application, allows to increase the functionality of mobile devices and avoid delays in obtaining information that arise when it is necessary to go or call the control centre for this. The control system generates tables adapted for mobile devices screens with data about the operation of the equipment for any given time interval [5].

Such direct communication with a control system using mobile or wearable devices as a human-machine interface gives an unprecedented level of flexibility, providing critical information to all involved personnel, regardless of its location. In addition, using a control system connected to the Internet, users can use their personal and already familiar devices, which reduces the time it takes to train staff to work with new control systems.

Conclusion. The integrated application of innovative IT in industrial organization contributes to the integrated development of key parameters aimed at optimizing production and management processes, improving the quality and speed of production of products and services, and quickly and flexibly obtaining up-to-date information. When implementing each individual technological approach or equipment, it is necessary to take into account various features of the location, structure or organization of the enterprise.

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FINANCIAL SOUNDNESS OF THE BANKING SECTOR AS THE BASIS OF ITS FINANCIAL STABILITY

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The article deals with the contents of the categories "financial stability" and "financial soundness." The studied and systematized indicators assess the financial soundness of the banking sector.

The concepts of economic security, economic (financial) and structural soundness, stability, reliability, maximum risk the functioning of the financial and economic system are often used in the scientific literature and economic practice.

In a similar sense most authors did not determine that they are synonymous, nevertheless, accurate overall differences that these terms are taken have until recently been known. The reason for this condition is the overlap between the concepts of various theoretical models of the analyzed systems of general systems theory, organizational theory, economics, general management theory, financial management theory and so on.

Furthermore, these differences in the understanding historically depend on professional affiliations and research problems (economic, financial, administrative, accounting, auditing, etc.). This leads to some confusion in the description of various states and assessments of economic entities. As a result, this raises errors in the analysis of the behaviour of complex economic systems, and most importantly, the justification of methods and the implementation of performance management of any business entity, including commercial bank. We belive that financial stability along with price stability and the stability of the balance of payments component is part of the macro-economic stability of the country.

Financial stability is the state of a financial system in which banks and non-bank financial institutions, other financial intermediaries, financial market and payment system properly carry out their inherent activity and are able to carry out such activities in the case of the destabilizing effects of internal and external factors [1].

In general, the stability can be determined by soundness to certain periods of time when interacting with the environment and ensuring the ability to reflect the disturbances action, and therefore, ultimately to support the preservation of the structural integrity, security, structure stability of external and internal communications, the ability to exercise their functions the most efficient way throughout the entire time of operation.

There is no "stability" in the definitions of "soundness" in the disclosure of the content of the unity of concepts. In some cases, the English term «financial stability» is translated into Russian as financial soundness. However, in our opinion, the financial stability and financial soundness are not synonymous. The meaning of "financial stability" is broader and means that the financial system is operating in a state of balance, keeping unchanged its structure. Financial soundness is represented in a balanced state, reflecting the ability of the credit institution to maintain it in the changing internal and external environments. At the same time financial soundness is the property of the financial system back to equilibrium after the impact of the termination, that brought her out of this state. Consequently, the financial stability of the financial system requires a balance, financial soundness. However, the desire to equilibrium, and its achievement is possible only in the absence of negative shocks.

Financial stability in Belarus involves stability of the non-financial, financial sector, financial markets, payment systems and sustainability to external and internal macroeconomic risks. The financial stability of the banking sector is characterized by a number of indicators: indicators of economic security; level of public debt; the budget deficit; cross-border capital flows; exchange rate, the degree of liberalization of the economy; economic growth; balance of payments deficit; the level and pace of interest rates, financial soundness indicators of the banking sector and others.

Certainly, financial soundness of the banking sector is one of the key elements of the financial stability of the banking sector. The Belarusian economic publications of financial soundness the banking sector is also quite poorly studied, but recently more and more attention is paid to this subject in the conditions of growing risks of crises in the world, the globalization of the economy and the impact of shocks on the banking sector.

Admission to the financial market of financially stable credit institutions is a necessary condition for the stable functioning of the banking system. Improving the system of evaluation of the commercial banks and their financial soundness contributes to the stability of both individual banks and the banking system as a whole. Such a system would allow to find troubled banks at an earlier stage through their monitoring, which allows for capital adequacy, asset quality, liquidity level of controllability, optimal structure of liabilities and financial performance.

We have investigated and systematized indicators of the financial soundness of the banking sector.

Due to the fact that the banking sector is closely linked with other parts of the state of the financial system, it was necessary to create a number of indicators. For comparability of performance indicators at the international level, the International Monetary Fund, together with the monetary authorities of the world has developed "Guidelines for the compilation of financial soundness indicators", in which 39 indicators were used. These parameters are divided into two groups:

- basic set (12 indicators), which reflects the condition and soundness the banking sector;
- recommended set (27 indicators), including the financial sector indicators (including the banking sector), the household sector, the financial market and the real estate market.

The inclusion of indicators of non-banking sector, shows the relationship of the sectors of the economy, for example, adverse developments in the real sector can lead to lower quality indicators of banks' loan portfolio and, thus, adversely affect the financial soundness of the banking system.

We represent some of the characteristics of these indicators in accordance with the procedure set out in the publication of the International Monetary Fund, "Financial Soundness Indicators. For guideline development" (IMF, 2007) [1].

The ratio of regulatory capital to assets, weighted for risk, is calculated by dividing the value of regulatory capital by the amount of assets and off-balance sheet liabilities, the estimated level of risk.

Regulatory Tier I capital to assets weighted by risk, is calculated by dividing the value of the equity capital by the amount of assets and off-balance sheet liabilities, the estimated level of risk.

The ratio of the distribution of loans and borrowings by sectors to the total loans and borrowings is calculated by dividing the amount of debt on loans extended to banks the economic sector, in the aggregate amount of outstanding loans granted by banks to customers - residents and non-residents.

The rate of return on equity is calculated by dividing the sum of the profit for the 12 months preceding the reporting date, before income tax, the average chronological value of capital in the 12 months preceding the reporting date. The capital is calculated as the difference between total assets and liabilities.

The ratio of liquid assets to total assets ratio is calculated by dividing the value of liquid assets to the value of total assets. Liquid assets include cash, including precious metals and precious stones; means the National Bank (including funds deposited in excess of the fixed part of the amount of reserve requirements); securities which can be easily converted to cash; financial assets with maturity on demand and up to 90 days.

Capital ratio is calculated by dividing shareholders' equity by the amount of total assets. The capital is calculated as the difference between total assets and liabilities.

The spread between the highest and lowest interbank rates is calculated as the difference between the maximum and minimum levels of interest rates to attract funds in the interbank market during the quarter preceding the reporting date, expressed in basis points.

The ratio of foreign currency loans to total loans in foreign currency is calculated by dividing the amount of debt on loans for the aggregate amount of outstanding loans to customers by banks.

In addition to these groups of indicators to assess the financial soundness of the banking sector of the Republic are also examined generalized capital adequacy, loan performance, interest rate and currency risks, and liquidity risks in the whole banking sector. These figures are calculated on the basis of aggregated accounting and statistical reporting banks of the republic.

To assess financial soundness of the banking sector of the Republic of Belarus will consider financial soundness indicators according to the methodology of the International Monetary Fund in dynamics for 2014-2017 years at 01.01.

Consider the basic indicators of financial soundness of the banking sector indicators in the dynamics of 2012-2017 years of 1 January of the relevant year, calculated in accordance with the procedure set out in the publication of the International Monetary Fund, "Financial Soundness Indicators. For guideline development " (IMF, 2007) (Table 1).

The first figure in Table 1 is the capital adequacy ratio, and it is the main element of the Basel agreement on equity norm. This indicator increased in the considered interval, which is a good trend, because it shows the strength of the capital. The ratio of non-performing loans to capital reveals the possibility of the bank to cover losses, before the sector will be in a technical state of insolvency, the rate increases, which is regarded as a good result. Share distribution of loans by sector in the total volume of credits makes it possible to identify the degree of concentration of loans to a particular sector. In our case the figure is quite high, but a downward trend, but do not allow too high a level of this indicator, because it will lead to an increase in the bank, depending on the situation in this sector of the economy: economic activity, pricing, profitability, dependence on external markets etc.

Table 1 – Dynamics of the basic indicators of financial soundness of the banking sector according to the IMF methodology 01.01

Indicator	2014 y.	2015 y.	2016 y.	2017 y.	Abs. growth 2015/2014	Abs. growth 2016/2015	Abs. growth 2017/2016
The ratio of regulatory capital to assets weighted by risk	15,5	17,4	18,7	18,6	+1,9	+1,3	-0,1
Tier ratio of regulatory capital to assets weighted by risk	11,5	12,9	14,7	14,2	+1,4	+1,8	-0,5
The ratio of non-performing loans net of provisions to capital	14,0	14,6	21,2	38,9	+0,6	+6,6	+17,7
The ratio of credit allocation by sector to total loans: residents	100,0	99,6	99,5	98,6	-0,4	-0,1	-0,9
Assets profit rate	2,3	2,1	1,3	1,6	-0,2	-0,8	+0,3
Rate of return on net worth	16,2	15,3	10,4	12,6	-0,9	-4,9	+2,2
The ratio of liquid assets to total assets (liquid asset ratio)	30,0	29,7	26,0	24,6	-0,3	-3,7	-1,4
The ratio of liquid assets to short-term liabilities	89,6	89,9	75,8	51,0	+0,3	-14,1	-24,8
The ratio of net open currency position to capital	11,3	9,1	4,4	6,3	-2,2	-4,7	+1,9

Source: [1].

The rate of return on assets and equity in the above gap is reduced, that does not talk about improving the quality of the banking sector and improve its financial soundness. As for the net open currency position to capital, there is a downward trend, which is regarded as a good indicator of the dynamics of this, because the figure shows the dependence of banks on the exchange rate, ie exposure to currency risk.

Then we consider the dynamics of recommended indicators in accordance with the methodology of the IMF (Table 2). Gaps reflect the dynamics of the introduction of new indicators to assess the financial soundness of the banking sector.

Table 2 – Dynamics of recommended indicators of financial soundness of the banking sector according to the IMF methodology 01.01

Indicator	2014 y.	2015 y.	2016 y.	2017 y.	Abs. growth 2015/2014	Abs. growth 2016/2015	Abs. growth 2017/2016
Capital ratio	14,0	13,3	12,8	13,5	-0,7	-0,5	+0,7
The ratio of large exposures to capital	127,6	140,7	193,8	176,5	+13,1	+53,1	-17,3
The ratio of personnel expenses to non-interest expenses	-	6,1	5,4	5,3	-	-0,7	-0,1
The spread between the highest and lowest interbank rates, basis points	-	4 050,0	1 170,0	900,0	-	-2 880	-270,0
The ratio of customer deposits to total loans (excluding interbank)	-	81,1	87,6	89,4	-	+6,5	1,8
The ratio of foreign currency loans to total loans	51,3	52,3	58,1	57,5	+1,0	+5,8	-0,6
The ratio of foreign currency liabilities to total liabilities	63,5	63,3	74,1	72,6	-0,2	+10,8	-1,5

Source: [1].

According to Table 2, we have come to the conclusion that the ratio of capital to assets is reduced, which is a good trend. The ratio of personnel expenses to non-interest expense is also reduced, which again is a good sign for the banking sector. The spread between the highest and lowest interbank rates decreased, and it is characterized as a positive direction of the indicator. As shown in Table 2, a considerable amount of new indicators have been added in the last three years. In our opinion, this is due to the increased interest in higher authorities according to positions within the modern trends of development of the country's banking system.

To conclude, despite some progress in the formation of the system analysis of the financial soundness of the banking sector, followed by the National Bank of the Republic of Belarus, the tools need to be further improved and developed.

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ASSESSMENT OF SOCIAL POLICY OF THE REPUBLIC OF BELARUS

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The article formulates the concept of social policy, presents its main functions, as well as indicators of its evaluation. The effectiveness of social policy in the regions of the Republic of Belarus was assessed using the Social Policy Effectiveness Index (SPEI). There are identified the main problems of the social policy in the regions and there are suggested the ways of their solution.

In modern conditions, social policy is one of the most important directions of the internal policy of any economically developed state, regardless of the presence or absence of the term "social state" in its constitution. In an effort to provide its citizens with decent living conditions, state power redistributes the national product in favour of the least well-off citizens, smoothes out excessively harsh manifestations of social inequality, pursues a policy of employment and equalization of life chances.

Social policy analysis should be conducted on the basis of a multilevel approach, i.e. to consider macro and micro levels in interrelation with each other.

Indicators for the development of human potential, social unhappiness, etc. can be used to analyze and evaluate social policy [1]. In our study, we used indicators of socio-economic development to assess the social policy of the Republic of Belarus at the regional level. Such an analysis was conducted to identify regional leaders in the field of social development, as well as problem regions, whose social policy requires adjustment.

The analysis was carried out for 2013-2015 with the following criteria [1]:

1. Demography and health: life expectancy, infant death rates, total mortality rate, number of doctors in every 10,000 of the population.
2. Education: coverage of the population with basic education, the number of people with the higher education per 10,000 population, the number of students per 10,000 population, and the number of higher education institutions.
3. Standard of living: real gross regional product (GRP) per capita, average wage, average wage ratio to the subsistence minimum income.
4. Employment: unemployment rate, employment rate of economically active people.
5. Life necessities: availability of drinking water, sanitation.
6. Development of the institution of the family: the level of extramarital births, the number of divorces.
7. Food security: the share of food imports in total consumption.
8. Crime: the level of crime among the population.
9. Economic security: the amount of external debt in relation to gross national product (GNP).
10. Expenditures on basic social needs: the share of budgetary expenditure on health in the GRP, the share of budgetary expenditure on education in GRP.
11. Access to information and communications: the number of mobile phone users, the number of Internet users, the proportion of organizations using information and communications technologies (ICT).

To bring the indicators to a common unit of measurement, a normalization procedure was carried out based on the rating approach. This methodology was proposed by the World Bank to calculate the resulting indicators of knowledge measurement, both the knowledge index and the knowledge economy index [2, p. 54]. To assess the effectiveness of social policies in the regions, we introduced the Social Policy Efficiency Index (SPEI). It is the arithmetic mean of the given above indicators that have passed the normalization procedure.

The assessment found out the following results, presented in Table 1.

Proceeding from the SPEI analysis, the leader among all the regions is Minsk City due to the high value of such indicators as "demography and health", "education", "standard of living", "employment", "food security" and "economic security". The last is the Minsk region due to the low indicators such as "education", "food security", "crime", "spending on basic social needs" and "access to information and communications".

Next, we consider the dynamics of the indicators for assessing the productivity of social policies in the regions of the Republic of Belarus using a scale that establishes a correspondence between the value of growth in indicators and productivity.

Table 1 – Assessment of the efficiency of social policy in the regions of the Republic of Belarus in 2015

Indicator	Brest region	Vitebsk region	Gomel region	Grodno region	Minsk city	Minsk region	Mogilev region
Demography and health	6,78	2,50	5,36	5,36	10	5	5,72
Education	4,29	7,50	7,86	3,93	7,86	2,50	6,43
Standard of living	1,91	4,29	6,66	6,19	10,00	8,57	2,38
Employment	5,00	3,58	2,86	7,14	10,00	8,57	5,72
Life necessities	5,00	7,15	4,29	4,29	6,43	7,14	6,43
Development of the institution of the family	7,14	5,72	2,86	10,00	4,29	5,00	5,00
Food security	7,14	5,71	8,57	4,29	10,00	1,43	2,86
Crime	5,71	7,14	4,29	10,00	1,43	2,86	8,57
Economic security	5,71	4,29	7,14	2,86	10,00	8,57	1,43
Expenditures on basic social needs	7,14	8,57	5,72	5,00	1,43	2,86	10,00
Access to information and communication	6,19	7,62	4,76	6,67	7,14	2,38	5,24
SPEI	5,64	5,82	5,49	5,98	7,14	4,99	5,43
Rank	4	3	5	2	1	7	6

Source: compiled by the author on the basis of reference [3].

We calculated the rates of growth of all the indicators studied, given that their change can have different impact on the effectiveness of social policy. At the preliminary stage of the analysis, a scale was adopted for assessing the effectiveness of social policy, presented in Table 2.

Table 2 – Scale for assessing the productivity of social policy

Rate of indicator	Productivity	Interpretation
More than 15 %	-2	Significant productivity reduction
From 5 to 15 %	-1	Decreased productivity
Until 5 %	0	No significant changes
From 5 to 15 %	1	Increased productivity
More than 15 %	2	Significant increase in productivity

Source: [4, p. 54].

The results of the assessment are presented in Table 3.

Table 3 –Assessment of the productivity of social policy in the regions of the Republic of Belarus for 2013-2015

Indicator	Brest region	Vitebsk region	Gomel region	Grodno region	Minsk city	Minsk region	Mogilev region
1	2	3	4	5	6	7	8
Demography and health	0	-2	0	1	2	1	3
Education	-3	-1	-1	-2	-4	3	-3
Standard of living	4	4	4	3	5	5	3
Employment	-1	-2	-2	-2	-2	-2	-4
Life necessities	0	2	-1	2	1	2	0

Continued

1	2	3	4	5	6	7	8
Development of the institution of the family	3	3	3	2	2	3	4
Food security	0	0	0	0	0	-1	0
Crime	-1	1	0	-1	1	-1	-1
Economic security	-3	-2	-2	-3	-2	-1	-3
Expenditures on basic social needs	3	3	4	4	2	2	5
Access to information and communication	0	0	0	-1	1	0	0
SPPI	2,00	6,00	5,00	3,00	6,00	11,00	4,00
Rank	7	2	4	6	2	1	5

Source: compiled by the author on the basis of reference [3].

As a general indicator of social policy performance, we used the Social Policy Productivity Index (SPPI), which is the sum of social policy performance assessments for indicators, consisting of selected indicators of social and economic development of the regions.

Based on the data in the table, the following conclusions can be drawn. The most productive social policy is in the Minsk region, whose SPPI is 11.00 due to a significant increase in the "standard of living" indicator and the growth of indicators such as "education", "life necessities", "development of the family" and "crime".

The second place is occupied by the Vitebsk region. This is due to the high growth rates of the following indicators: "standard of living", "life necessities", "development of the family" and "expenditures for basic and social needs". However, the decrease in the performance of social policy was caused by a decrease in the "demography and health" indicator. Also running second is Minsk. The "standard of living" indicator gave a significant increase in the productivity of the social policy of the region, but the "education" indicator had a negative effect on the productivity.

Among the regions the Brest region occupies the last place. The decrease in the productivity of the social policy of this region was provided by "education" and "economic security" indicators.

We should take note of the Mogilev region, which, although it is in the fifth place, but has growth rates, proving that the productivity of social policy for the period under investigation has increased. Such indicators are "demography and" health", "development of the family" and "expenditures on basic social needs".

Based on this assessment and the results we obtained earlier, there were identified and presented the main problems of the social policy in the regions of the Republic of Belarus and the ways of their solution in Table 4.

Table 4 – Problems of implementing social policy in the regions of the Republic of Belarus and ways to overcome them

The sphere of social policy	Problems	Solutions
1	2	3
Salary	• outstripping growth of salary over labour productivity growth; • low level of the tariff rate of the first category; • lagging behind the salary of public sector employees in comparison with the real sector of the economy; • a lack of direct correlation between salary and production efficiency; • insufficient attention to the work of a person in the team	• establishing the correspondence between labour payment and business efficiency; • development of joint-stock property of employees with the purpose of involving them in the management of the organization and increasing their motivation for high-performance work; • approximation of the tariff rate of the first category to the value of the budget of the subsistence minimum and further to the minimum consumer budget

Continued

1	2	3
Pension system	• decrease in the level of pensions; • a high degree of redistribution of funds for those who had high earnings before retirement; • the possible scarcity of the current pension system as a result of current demographic processes	• optimization and rationalization of the pension system, which should lead to a change in the basic principles and schemes for obtaining a pension; • formation of a multi-level system that provides different forms and options for pension provision
Social infrastructure	• selectivity and targeting of social policy; • insufficient development of social institutions; • increase in income inequality of the population; • backwardness of social infrastructure facilities, ineffectiveness of social assistance transfer mechanisms based on full centralization	• promoting employment growth and developing a flexible labour market that promotes the most effective use of labour; • refraining from dispersing funds in numerous areas and concentrating on major programs in the social field; • ensuring full access to the necessary information resources; • improvement of the system of selection of young people for study in higher educational institutions; • strengthening of the economic security of the country

Source: compiled by the author on the basis of reference [5, p. 16; 6].

In conclusion it should be noted that at the present time it is necessary to choose such social policy priorities that contribute to the improvement of the social and economic situation and to the creation of conditions for economic growth. In the sphere of income policy, an effective system of labour remuneration is created that will improve the standard of living of the population and stimulate high-productivity work. In the field of social protection of the population – protection of the population against social risks, social protection of children, families, youth, and other categories of citizens.

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STRATEGIC PLANNING AS A BASIS OF INCREASE EFFICIENCY OF ENTERPRISE FUNCTIONING

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In the article the tasks which solution will contribute to the qualitative strategic planning of the activity of the enterprise are considered. The problems that hamper the qualitative development and implementation of strategic plans of the enterprise are outlined, the ways of their solution are proposed to improve the efficiency of its functioning and ensure its competitiveness.

Strategic planning is characterized as an actual process in the activity of virtually any business entity, regardless of the form of ownership. The rapid pace of economic transformations in the Republic of Belarus and throughout the world makes business entities look into the future, formulate a clearly defined strategy for their development, determine their main advantages and competitive advantages, and eliminate threats and dangers. Whereas in the past many enterprises could function very successfully, focusing mainly on internal problems related to improving the efficiency of resource use in current activities, today's market economy conditions make it necessary to change the prevailing business stereotypes and the nature of management. First of all, this refers to the activities that determine the prospects for the development of the enterprise. The business entities, whose management is focused on the solution of short-term tasks, do not possess the necessary stock of economic, organizational and production strength, which makes it possible to carry out, if necessary, effective renovation, can not stand in the current rapidly changing market transformations. Severe competition, accelerating changes in the surrounding macro and microenvironment, the dynamism of changes in consumer demand, the sudden emergence of new business opportunities, the unpredictability of many environmental factors - this is far from a complete list of reasons that have led to a sharp increase in the importance of strategic planning.

The term "strategic planning" was introduced at the junction of the 60-70s. in order to indicate the difference between the current management at the production level and the management carried out at the highest level. The need to fix this difference was primarily due to changes in business conditions. The leading idea, reflecting the essence of the transition from operational management to strategic, was the idea of transferring the focus of attention of top management to the environment in order to react appropriately and in a timely manner to the changes occurring in it [1, p. 157].

Therefore, strategic planning is the foundation of the company for the long term, which will be guided by staff performing specific actions needed to achieve the objective by which they are authorized. Planning is one of the functions of management, which is a process of selecting the objectives of the enterprise and the ways to achieve them. It is through planning that the management of the enterprise strives to establish the basic directions of efforts and decision-making that will ensure the unity of objectives for all.

Strategic planning is aimed at achieving specific strategic objectives of the enterprise. Strategic objectives are meant to ensure long-term competitive advantages of the enterprise. These objectives will include expanding the sales market, maximizing profits, ensuring the financial stability of the enterprise, developing the innovative potential of the enterprise, increasing the efficiency of the use of resources and production capacities, developing effective mechanisms to implement current and long-term interests of the enterprise [2, p. 115].

When implementing strategic objectives, all structural divisions of the enterprise are involved. Objectives should be clearly articulated so as to avoid contradictions in the implementation of the program for their implementation. Before each structural division of the enterprise strategic tasks will be put.

Such tasks will include:

- competent distribution of the resources of the enterprise;
- adaptation to the external environment;
- internal coordination and regulation, providing for the coordination of efforts of the structural divisions of the enterprise;
- introduction of organizational changes in the direction of carrying out various organizational transformations at the enterprise [2, p. 117].

Awareness of the need for strategic planning involves the search for a formalized procedure for its implementation. For this, it is necessary to analyze the structure of the strategic plan, which is a complex of measures, the phased implementation of which leads to the working out and implementation of the enterprise strategy [3, p. 12].

The object of research of strategic planning is the enterprise engaged in the production and sale of bakery and confectionery products.

As a result of a detailed analysis of the strategic planning system at the enterprise, a number of problems were identified that hampered the qualitative working out and implementation of its strategic plans to improve the efficiency of its functioning and ensure its competitiveness.

The identified problems include:

– the lack of a clear development strategy;
– the lack of a clear division of functions and responsibilities between the structural divisions of the enterprise in the process of strategic planning;
– the weak analytical base of strategic planning.

The identified problems in the strategic planning system require solutions to improve the strategic planning system at the enterprise with the subsequent increase in the efficiency of its functioning and ensuring its competitiveness. Therefore, it is necessary to develop logically stated and economically justified measures that will be based on a strategic approach to enterprise management.

Such activities are:

– introduction of the principle of sliding planning on the enterprise;
– introduction to the enterprise of the mechanism of distribution of functions and responsibilities between departments in the working out and implementation of strategic plans;
– use of specific tools in the working out of strategic plans for the development of the enterprise.

Introduction of the principle of sliding planning on the enterprise. The principle of sliding planning is that long-term and medium-term plans form the basis for preparing production programs for the coming year and half-year. The main organizational and technological elements of the algorithm for linking strategic and annual plans are reduced to the declaration by the top management at the beginning of each year of the enterprise development strategy, the delivery of main planning targets to structural subdivisions in the form of tasks of the top management in terms of production and sales volumes, cost limits, independent determination by heads of structural divisions the planned policy for the implementation of the targets received from above, the preparation of each structural unit and plans based on the attainments received from the top management of the facilities, an especially thorough audit of the financial performance of the enterprise by the accounting department, approval of the plans of the structural subdivisions of the enterprise, implementation of plans of the structural divisions after their approval by the top management of the enterprise in the overall plan. It should be specially noted that the enterprise should give preference only to strictly defined planning strategies that correspond to the value orientations of the top management and the objective organizational and economic conditions of its activities. These strategies include a focus on increasing production, following a leader in terms of investing exclusively in the direction of enterprise development and achieving financial independence (minimizing debts) and focusing on one's own profit.

Thus, with the competent introduction of the principle of sliding planning on an enterprise, the enterprise will become more competitive, quickly and adequately able to react to changes that are constantly occurring in the surrounding market environment. Since the principle of sliding planning is that after the planned period the enterprise should develop an updated plan, increasing the planning horizon, for the remaining period the plan will be adjusted and updated in case of unforeseen circumstances caused by changes in the external environment.

Introduction to the enterprise of the mechanism of distribution of functions and responsibilities between departments in the working out and implementation of strategic plans. The clear delineation of the responsibilities of the company's structural divisions plays an important role in the strategic planning system, since with an irrational distribution of functions and responsibilities, the enterprise development strategy may prove to be erroneous. The planning and economic service is engaged in the development of the strategy at the enterprise. Due to this, there is a predominance of financial strategy over other components (marketing, resource, production, etc.). To solve this problem, a clear distribution of functions and responsibilities of strategic planning between the structural units of the enterprise.

The introduction of a clear mechanism for the distribution of functions and responsibilities between the structural units in the working out and implementation of strategic plans is necessary, since strategic planning as

an isolated type of managerial activity requires a clear distribution of functions and responsibilities between structural divisions and individual managers in the process of developing and implementing an enterprise development strategy.

Use of specific tools in the working out of strategic plans for the development of the enterprise. Obviously, for the use of specific tools in the working out of the strategy of a development, an enterprise, first of all, needs to solve the problem of information support and choice of methods for processing information. The basis of information support is a deep multilevel study of domestic and foreign markets on a wide range of indicators. An important role in this is played by the analysis of the parameters of the marketing population, which, through information on the price, products, the place of its production and the way it is promoted, significantly influences the decisions made in the development of the enterprise development strategy.

As a specific tool to be used in the working out of strategic plans that contribute to improving its efficiency and competitiveness, it is proposed to identify three main blocks of strategic planning tools that need to be implemented at the enterprise, namely:

1) strategic analysis;

2) working out a corporate strategy;

3) working out a strategic plan.

These blocks of specific instruments are designed to improve the system of strategic planning and give the enterprise a new impetus in ensuring its sustainable strategic development.

Strategic analysis. Strategic analysis is the main element of strategic planning in the enterprise and acts as its tool. In the process of strategic planning of its activities, the enterprise conducts an analysis of the external and internal environment. The analysis of the external environment is carried out at the level of macro- and microenvironment. For the analysis of the macro environment, the most popular is the PEST analysis (PEST - Political, Economic, Social, Technological). It provides an opportunity to determine what impact the environment has on the enterprise. According to the PEST analysis, the external environment is conditionally divided into four segments: political, economic, techno-logical and social.

The influence of political factors is because politics regulates the power that determines the enterprise's environment. On the basis of economic factors, the enterprise forms its own system of material and technical support, depending on the state of the economic situation in the country. The objective of the technology research is to analyze the level of technological development, which in most cases is the reason for changing market needs. No less important are consumer preferences, which are determined by the social component of PEST analysis.

The link between macro and microenvironment factors is the Porter model of five forces, the essence of which is to determine the level of competition in the industry and, therefore, the attractiveness of doing business in it.

Analysis of the five forces of Porter includes the threat of the emergence of substitute products, the threat of the emergence of new players in the market, the level of competition, the market power of suppliers, the market power of consumers.

Within the framework of the strategic analysis of the internal environment, enterprises identify a system of management analysis in accordance with the McKinsey 7S model, which is a convenient tool for analyzing the internal organizational structure and operating principles of the enterprise.

The McKinsey 7S model is based on seven elements of the company's internal environment:

1) the structure of the enterprise;

2) the environment of the enterprise;

3) the enterprise management system;

4) the value system of the enterprise;

5) the sum of the skills of the enterprise;

6) the staff of the enterprise;

7) the style of relationships within the enterprise.

According to the McKinsey 7S model, all elements of the enterprise microenvironment are divided into 2 groups: soft and rigid.

The soft elements of the enterprise's microenvironment include the value system, the sum of skills, the composition of the staff and the style of relationships, and the rigid elements are the structure, environment and management system.

To apply the McKinsey 7S model in practice, an enterprise must go through six main stages:

1) the collection of information – a detailed and clearly formulated description of each element of the model;

2) the analysis of contradictions – analysis of the elements of the model and the identification of their contradictions;

3) the ideal model – building a model of the enterprise in which all seven elements will ideally be combined and do not contradict each other;

4) the plan of changes – after determining the ideal image of the enterprise, an analysis of its current state is made and measures for its reorganization are developed;

5) the introduction of changes – implementation of the developed measures is carried out;

6) the control and monitoring – the work performed is monitored and compared with the expected results.

Working out a corporate strategy. Based on the analysis of the external and internal environment of the enterprise, a strategy for its development is being developed. There are a lot of methods that allow to optimize the process of working out of the corporate strategy. However, the matrix of the Boston Consulting Group (BKG) most effectively reflects the technique of its formation.

The essence of the matrix of the Boston Consulting Group is to analyze the relevance of the enterprise's products, based on its position in the market and the level of demand for its products.

The matrix of the Boston Consulting Group reflects the growth rate of the market and the relative market share. The combination of these criteria allows you to classify the enterprise's products and identify four of its possible roles in the market.

The first group of *"Stars"*. This includes products that bring a large income to the enterprise. In order to ensure that this product does not lose its position in the market, it is necessary to constantly improve its properties.

The second group is *"Wild cats"*. This includes products that occupy a small market share, but with a high growth rate. This group is promising, so there is a need to increase production volumes.

The third group is *"Dogs"*. The products of this group occupy a small market share and have a low demand. This product should be excluded from the portfolio, as it is unpromising for the enterprise.

The fourth group is *"Dairy Cows"*. The products of this group are a significant source of the enterprise's income. It makes no sense to promote this group of products, and it is expedient to distribute the received incomes to other groups.

Using the matrix of the Boston Consulting Group will allow the enterprise to determine the general directions of optimizing its product portfolio by identifying promising goods and goods that need to be disposed of.

Working out a strategic plan. To achieve its objectives, the enterprise needs to develop a strategic plan for its development, as well as a system for its implementation. The proposed specific tools will provide the enterprise with a qualitative analysis of the external environment, the formation of competitive advantages based on a detailed analysis of the micro environment, detailed analysis of the internal environment, product portfolio optimization, mobility and competitiveness.

Thus, when implementing the proposed activities in its practical activities on strategic planning, the enterprise will be able to organize its activities more efficiently through a long-term vision of its development. This will help improve the system of strategic planning, which will lead to an increase in the efficiency of the enterprise, while ensuring its competitiveness, and improving its financial position.

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UDC 330.4+330.1+330.16

A CONSULTING SERVICE FOR THE SOCIAL CAPITAL INSTITUTIONS IN ORGANIZATIONS OF THE EURASIAN ECONOMIC UNION

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The article presents a methodology for determining the characteristic rules of social capital institutions at meso-level in organizations of the Eurasian Economic Union. According to author, the measurement of the environment of social capital institutions in organizations is a kind of consulting service.

Under free market conditions of the Eurasian Economic Union (EAEU), main work in organizations always aims at profit, but in times of crisis social tension is growing because of inability to reduce a transaction costs, arising in interactions between actor and organization [1, p. 36-40]. A decrease of transaction costs depends on the factors that are rules of social capital institutions (SCI) that regulate behavior of actors in organizations. It forms environment of organization, which is responsible for effective interaction, an atmosphere of benevolence, understanding and mutual assistance [2, p. 16]. Studies have shown that organizations are not able to measure the rules of social capital institutions independently. This possibility can be realized only in form of consulting services and after receiving methodical recommendations: increasing effect of some rules and reducing effect of others.

The rules of social capital institutions are continuation of the research on aspects of social capital in organizations. Almost all researchers see in social capital not only the basic elements (networks, norms, trust) [3, p. 333-337, 4, p. 30], but also other characteristic components. Nowadays, 34 elements of social capital have been known: some constitute the core of it, they are trust, networks and norms; others are adjacent to the core, but all of them, as a result, form the rules of social capital institutions [5, p. 6-8]. According to the author's definition, the social capital institutions, within framework of institutional economy, *are the social capital elements, expressed through the rules of behavior of actors in achieving profits or benefits* [6, p. 36-41]. The difference is that social capital forms links between actors but the social capital institutions form relationships between actors based on rules, but in both cases, actors tend to profit. The rules are produced by any social institution that economists can use to generate profit or benefit. For example, the institution of "trust" can be represented in form of rules: trust to actors, trust to solidarity in organization, etc., – thus, we see the synthesis of economic and social institutions [3, p. 333-338].

The study of social capital of organization [4, p. 29-39], according to established rules, involves measurement and identification of indicators [7, p. 23]: charity, volunteerism and membership in public organizations, etc. [8, p. 243-244]. For example, the measurement of social capital in organizations led by the World Bank, through the SOCAT (Social Capital Assessment Toolkit) questionnaires, affects various aspects of interactions of actors in organization [9, p. 116-117; 10, p. 59-71]. The task of measurement hence is to define a correlation link of an indicator (or a set of indicators) of social capital with an indicator of value, benefit or profit, and to reveal the strength of it mutual influence. Further, the values of social capital indicators have been used as forecast indicators (predictors) of its effectiveness in organizations [7, p, 9-13, 23]. These studies are often point-based, considering a small number of indicators, and do not represent a systematic approach in development of methods for its construction and classification [11, p. 24-31]. For organizations, it is necessary to adapt indicators, for example, "volunteerism" is expressed in the form of a question by actor's participation in non-working activities in organization, "charity" is in form of investing by actor's time or benefit to set links in organization, etc. [8, p. 243-244]. Thus, the indicators of social capital are transformed into the rules of its institutions in organization.

In an organization, you can measure two levels of social capital institutions: micro-level and meso-level. At the micro-level, the rules of SCI functioning between actors in organization (actor-actor) are measured, at the meso-level – a relationship between actor and organization (actor-organization). Thus, actor is the starting point: his attitude to actors (individual) and organization (group, association) is measured and studied [12, p. 86].

In 2017, the norms of social capital institutions have been measured at the meso-level in three organizations with the form of ownership "Open Joint-Stock Company", the total number of over 600 actors in the average index. The matrix of the questionnaire consisted of 34 social capital elements (SCE), with 3

conceptual directions: the column "norms" defined the idealized representation of actors about the rule of the of social capital institution and ascertained a positive or negative attitude towards it; column "networks" showed practical interaction between actor and organization, actor's involvement in network activities in organization on basis of rule; column "trust" determined trust of actor to the rule, which is in effect in practice. The questionnaire, thus, is a tool in form of a 34 x 3 matrix – 34 SCE blocks with three questions in each (total 102 questions) (Table 1).

Table 1 – Fragment of the questionnaire

ESC blocks	Column "norms"	Column "networks"	Column "trust"
1	Are you positive about the fact that your organization is focused on making a profit?	Are you focused on making profits in your organization?	Do you trust the focus of your organization on making a profit?
2	Are you positive about the fact that there is solidarity in your organization?	Do you show solidarity in your organization?	Do you trust solidarity in your organization?

Source: author's development.

The sum of the marks of all the questionnaires allowed us to construct a diagram with the dynamics of the columns. We construct it from an increasing row "networks" (Fig. 1).

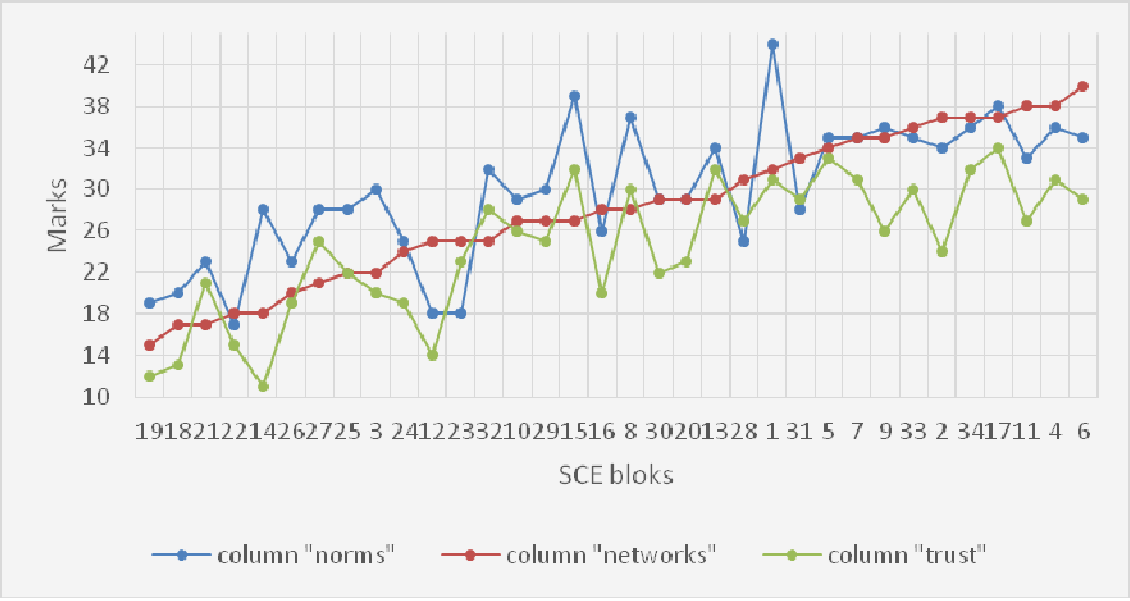

Fig. 1. Dynamics of the rows of the questionnaire

Source: Design Author.

Let's list the blocks of social capital elements from a decreasing column "networks" (from right to left): 6. Contact, 4. Transmitting, 11. Actor, 17. Norms (formal), 34. Communication, 2. Solidarity, 33. Resource (network), 9. Authoritarianism, 7. Trust, 5. Values (universal), 31. Social structure, 1. Purposefulness (for benefit), 28. Institute, 13. Public good, 20. Interaction or cooperation, 30. Social networks, 8 Opportunity, 16. Sanctions, 15. Social capital of the actor, 29. Information channels, 10. Participation, 32. Social organization, 23. Expectations and obligations, 12. Investment, 24. Contract or secret agreement, 3. Persuasion, 25. Opportunistic behavior, 27. Transaction costs, 26. Behavioral aspect, 14. Credit, 22. Risk, 21. Capital, 18. Rules (informal), 19 Exchange.

Now let's define 10 blocks of social capital elements of the "network" column with high indicators for each of these 3 organizations (org. 1, 2, 3) and also one general column (the sum of the "network" marks of all organizations) (Table 2).

Table 2 –SCE blocks with high indicators in column "networks"

№ position	column "networks" org. №1	column "networks" org. №2	column "networks" org. №3	column "networks" org. general
10	5	34	10	5
9	8	5	17	7
8	33	7	6	9
7	30	4	4	33
6	34	33	9	2
5	1	9	33	34
4	17	17	2	17
3	2	31	7	11
2	4	11	34	4
1	6	6	11	6

Source: Design Author.

Comparative analysis shows that in all organizations in the top ten (with high marks) of the "networks" column there are similar SCE blocks: 6, 4, 17, 34, 33. After summing up the "networks" column (organizations), in the general column we observe similar SCE blocks that are even closer to the topmost positions. We can state, that these rules of social capital institutions are actively used by actors to generate profits or benefits in organization. Let's describe the observed blocks, according to the positions in the general column.

6. CONTACT – actors actively contact in organizations. Contacts in organizations determine effectiveness of its activities. If actors form organization, then benefits of actors depend on contacts. Correctly organized structure of contacts or its system can increase profitability for actors and the organization. Contacts hold together and hold a social capital of organization. Social capital is manifested in contacts.

4. TRANSMITTING – actors actively transmit information and knowledge to organization. The transfer of information and knowledge to organization is necessary to generate benefits. The transfer and acquisition of knowledge and information contributes to effectiveness of interactions, and regulates the behavior of actors. Social capital is expressed in the transmission information and knowledge in organization.

17. NORMS (formal) – actors in organization highly appreciate legal and normative documentations. It defines networks of their functioning in organization. The effectiveness of rules of social capital institutions depends on normative legal documentations. Formation of normative and legal documentations is able to regulate behavior of actors. Social capital is expressed in the implementation of formal norms.

34. COMMUNICATION – actors are good at distinguishing good connections from bad ones. Actors emphasize this norm, show its necessity. Good connections help actors to generate benefit. Bad connections are not good. Social capital is expressed in possession of good ties.

33. RESOURCE (network) - actors actively get to know each other. The increase in social capital in organization is carried out through the establishment of acquaintances between actors. During the acquaintance of actors, there is always a harmonization and unification of the rules of social capital institutions: the importance of some and secondary importance of others is determined. Social capital is expressed in establishment of new contacts, acquaintances between actors are welcomed (see up, Table 2).

Thus, we have identified the characteristic rules of social capital institutions at the meso-level in organizations that promote profit or benefit by actors.

Under the conditions of the EAEU, market institutions, in comparison with the Western countries, have gone a little way. Borrowing of economic institutions in advanced countries does not guarantee its effective application in the Post-Soviet space: adaptation is not easy, which is even more difficult for studying the rules of social capital institutions in organizations. As it is known, the theory of social capital has being formed in the conditions of Western models of a market economy, when rules of institutions are supported by majority of actors and are backed by normative acts. While, for the EAEU countries, the measurement of the rules of social capital institutions in organizations is at an early stage.

The presented method allows with help of consulting services to define characteristic rules and its indicators in organizations in order to apply methods to improve quality of environment of social capital institutions. In organizations of the EAEU member countries, and Belarus in particular, it is necessary to improve quality of relationship between actor and organization, through consulting services of the rules of social capital institutions.

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UDC 338.23

INNOVATIVE DEVELOPMENT IN THE REPUBLIC OF BELARUS

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In this article the most important parts of innovation development in the Republic of Belarus are considered. The conclusions about the dynamic of analyzed indicators and tendencies of the differences of analyzed facts are made.

At the present stage competitiveness of the country depends on its innovation development. It's necessary to ensure the formation of high-tech sectors with the introduction of innovations to achieve high-quality growth of the national economy. It's also necessary to contribute to the innovation development of small business enterprises.

Let's consider the indicators of innovative and industrial activity in the period 2010-2015, which is provided in table 1.

Table 1 – Indicators of innovative and industrial activity in the period 2010-2015 in the Republic of Belarus

	2010	2011	2012	2013	2014	2015
Number of innovative-active organizations of industry, units	324	443	437	411	383	343
The share of innovative-active organizations in the total number of industrial surveyed organizations, percent	15,4	22,7	22,8	21,7	20,9	19,6
Specific weight of shipped innovative products in the total volume of shipped products of industry, percent	14,5	14,4	17,8	17,8	13,9	13,1
Expenses for technological innovations of industrial organizations in actually operating prices, billion rubles	2793,3	8763,7	7937,5	9986,2	10281,9	10616,7

Source: [1].

According to table 1, the amount of innovative organizations in the Republic of Belarus in recent years has swiftly decreased. However, expenses for technological innovations of industrial organizations have annually increased and this has increased innovative potential of this sector of the economy.

Let's consider the development of the innovative infrastructure in table 2.

Table 2 –Development of the innovative infrastructure in the Republic of Belarus in 2010–2015

Elements of innovative infrastructure	2010	2015	Change 2015 to 2010
Science and technology parks	7	9	+2
Technology transfer centers	4	4	-
Scientific-production (scientific-practical) centers	40	60	+20
Business incubators	9	20	+11
Chinese-Belarusian Industrial Park "The Great Stone"	-	1	+1
High-tech Park (multifunctional)	1	1	0

Source: [2].

So, innovative infrastructure in our country has been successfully developing for the last 5 years, it has led to the emergence of 20 scientific-production centers, 11 business incubators, 2 science and technology parks and industrial park. The work is carried out to expand the innovative infrastructure, support the creation of innovative centers in the educational system, facilitate the participation of Belarusian scientists and teams in international programs.

So, let's consider expenses of organizations of the Republic of Belarus for technological innovations in the manufacturing industry in 2015 in figure 1.

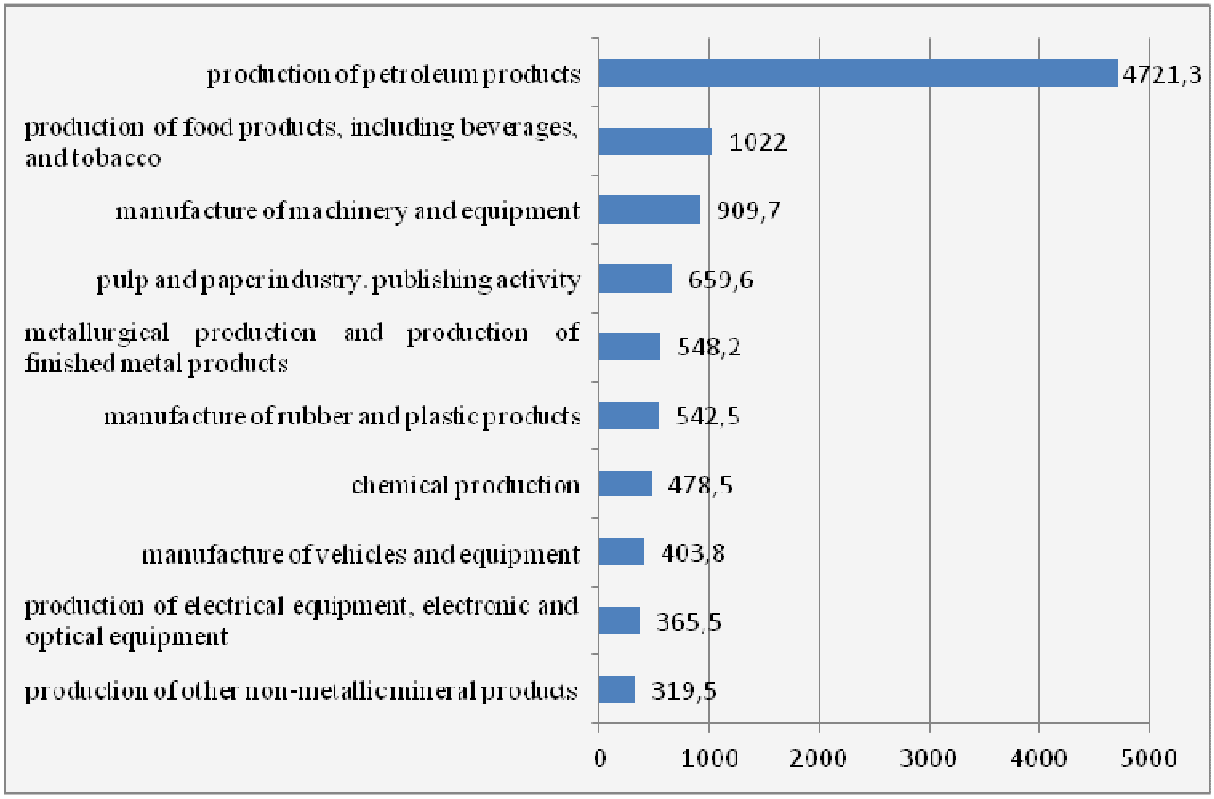

Fig. 1. Expenses of organizations for technological innovations in the manufacturing industry in 2015, billion rubles

Source: [1].

The biggest amount of expenses for innovations is concentrated in the production of petroleum products, because the branch of the oil refining industry is one of the strongest in our country and it comprises 4721,3 billion rubles. The most popular sphere of entrepreneurship is public catering, so innovative investment in the production of food products takes the second place in the expenses of technological innovation and comprises 1022 billion rubles.

In the Republic of Belarus the innovative development is supported by the government according to the state programs of innovative development.

Let's consider the results of this program for 2011–2015 in table 3.

Table 3 –The results of the state program of innovative development for 2011–2015

Results achieved	Expenses
Created or upgraded 19 322 work places	77,04 trillion rubles Including ➢ Budgetary funds – 8,6 trillion rubles (11%); ➢ Foreign investment – 27, trillion rubles (36%)
The volume of production of innovative products – 107,7 trillion rubles (about 30% of the total volume of innovative products of the Republic of Belarus)	
The volume of export of innovative products – 1,23 billion US dollars	
Legislation has been created and a system of supporting of innovative activities has been created in the form of tax and other instruments	
The efficiency of the innovation infrastructure has been increased (from 2012 to 2015): • the amount of work places from 607 to 1137; • volume of production from 109,7 to 266,8 billion rubles	

Source: [2]

According to the table 3, the innovative activity is supported by the government at a sufficiently high level. Big volumes of state resources is devoted to financing of innovative activities. The innovative development is financed by foreign investors too.

So, the development of the innovative infrastructure will contribute to increasing of competitiveness of our country, development national economy, promotion of domestic innovative products to the world market, raising living standards and welfare of the society, solving the problem of unemployment and increasing employment.

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Economics

UDC 658.8.07

STUDIES OF THE DEVELOPMENT OF THE LOGISTIC SYSTEM OF OJSC "BELARUSIAN STEEL WORKS"

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The Belarusian Steel Works is a unique enterprise of the metallurgical industry of Belarus, which belongs to the category of modern factories of the European level. The article presents the results of the analysis of the logistics system of this enterprise, which revealed promising directions of development and ways to improve the logistics system.

Large-scale steel manufacturing and rolled steel production in Belarus has begun only after the creation of a steel works in Zhlobin. The Belarusian Steel Works is an enterprise of an incomplete metallurgical cycle, which includes the preparation of basic raw materials, steel smelting and the production of final products in the form of cast billets, long products and hardware (metal cord and wire).

The main goal of BMZ development is the development of the company's economy on the basis of innovative renewal, increasing economic efficiency, environmental safety, resource saving and increasing the competitiveness of products. In general, two strategic tasks are being accomplished. The first is an increase in the export of products. The starting material is scrap metal. And products with high added value are sold. The second task that is being solved is import substitution. To fulfill the tasks set, modernization of existing facilities of main and auxiliary production facilities, construction and commissioning of a number of new facilities is envisaged [1].

The main competitive advantages of BMZ:

- Strong positions in the world metal products markets;
- Favorable geographical location of the works;
- Professionalism of staff;
- High competitiveness of products;
- The current investment program;
- Wide production line;
- High consumer's reputation for the level of product quality;
- Own distribution network of seven joint ventures and nine distributors in Europe, America, CIS, Southeast Asia.

Enterprise services that perform logistic functions:

Basic:

1. Purchase (raw material management, logistics management, management of equipment procurement, chief power engineering department, chief electrician department, automation department).
2. Production (scrap yard, steel melting shops, steel wire shops, rolling mill, pipe-rolling shop).
3. Distribution (sales management, marketing department, warehousing, warehouses of finished products).

Key:

1. Compliance with standards (quality management department, technical control department, technical department, chief metrologist department).
2. Procurement management (main and auxiliary workshops, financial management, competition department).
3. Transportation (transport logistics department, railway workshop, technological vehicle shop, a subsidiary of the enterprise "Metallurgavtotrans", independent transport companies).
4. Inventory management (main and auxiliary shops, shop warehouses).
5. Management of order procedures (main and auxiliary workshops).
6. Management of production procedures (production management, main and auxiliary workshops).
7. Pricing (price department, management of planning and economic analysis, management of accounting, reporting and control).

Supporting:

1. Warehousing (warehouses of finished products of shops).
2. Cargo handling (container and packing department).

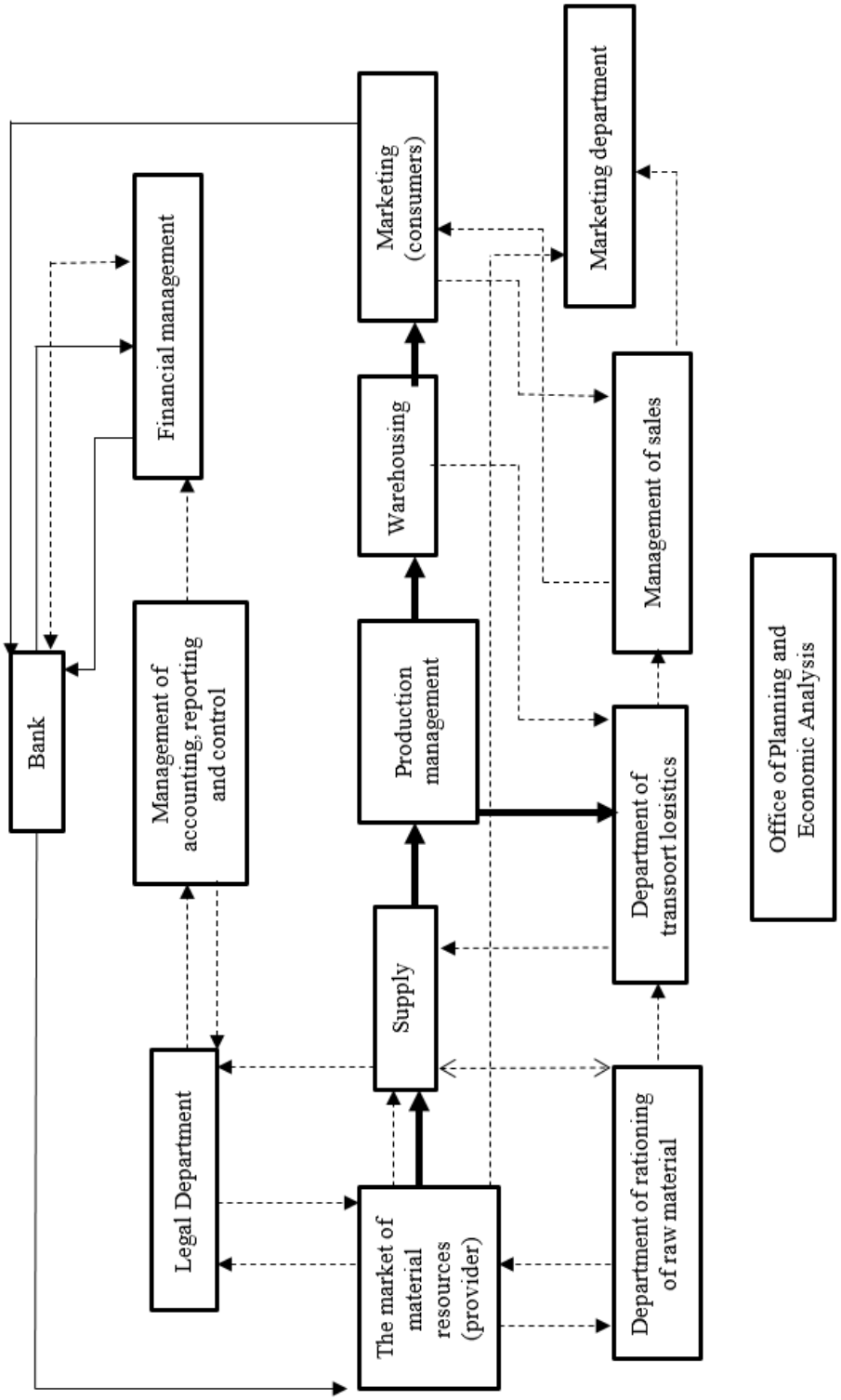

Fig. 1. – The traffic pattern basic flows in the logistics system and the supply chain
Conventional notation:

3. Protective packaging.
4. Provision of spare parts and service.
5. Collection of returnable waste.
6. Information and computer support [2, p. 35].

The analysis of flows showed that in the field of procurement logistics the main problem is the raw material safety of the enterprise. We are talking about the stable supply of scrap metal. Due to the reduction in size and the reduction in the metal consumption of production, it is no longer possible to collect scrap metal in such quantities as the capacity of the plant was calculated for during construction. Belarus is forced to purchase metal abroad. The reason for this can be the low percentage of scrap metal delivery by the country's population.

In the field of transport logistics, BMZ faced challenges due to the lack of its own car fleet. Previously, they used mainly Russian wagons. But on the Russian railways there was a shortage of rolling stock, which led to the fact that the supply of raw materials to BMZ fell sharply, and the cost of the car for the transportation of products increased sharply. Taking into account that up to 55% of scrap metal is imported to BMZ from the territory of Russia and a decent volume of finished goods (armature) is shipped back in the wagons [3], the acquisition of its own car fleet will reduce downtime, more clearly predict their actions and not depend on any nuances in the work of the railway, delivering goods in guaranteed terms (Fig. 1).

In the field of production, an important issue for the enterprise is the quality of the raw materials supplied. Taking into account the high competition in foreign markets, the company needs to produce products of high quality. BMZ is forced to reduce the profitability of products. At the same time, the price still remains at a high level, which prevents the products from effectively competing, both on the domestic and foreign markets.

Thus, during the analysis it was revealed that the most attractive strategy for the company would be:

1) ensuring a high share of own raw materials;
2) creating its own car fleet;
3) increasing the number of branches and warehouses in Russia;
4) improving the quality of supplier selection.

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THE RESEARCH OF "LOGISTICS COSTS" AND "LOGISTICS EXPENSES" CONCEPTS

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The article presents the approaches of various authors to understanding the concepts of "logistics costs" and "logistics expenses". Logistical operations with products and objects of labor are carried out both in the sphere of production and in the sphere of circulation. The study of the structure of costs will allow more detailed study of each type of costs and take into account the possible consequences of management decisions.

One of the main tasks in logistics is to organize such a geographical location of sources of raw materials, work in progress, stocks of finished products that meet the needs for them and at the same time would involve minimal possible costs. In logistics, in addition to the concept of "logistics costs" the concept of "logistics expenses is often used. Below the most common terms of logistics costs and logistics expenses are:

Logistical costs are the expenses associated with the process of commodity circulation at all stages of economic and organizational activities carried out in functional logistics chains (purchases, warehousing, transportation, stocks, production, sales), in the micrological chain (the movement of products at the enterprise or in the organization), in macrological chain (the movement of products between business entities) [2].

Logistical expenses are the financial expression of the employment of the work force, means and tools of labor, as well as the monetary expenses that have arisen in the promotion of material values (resources, materials, goods) at the company and between companies, and also while maintaining supplies [6].

Logistical expenses are the expenses of labor, material, financial and information resources, which are determined by the performance of the company's logistics functions and operations.

Logistical costs are costs that arise from poor planning of storage costs, inventory and transportation of goods [4].

Logistics costs are the expenses of performing logistics operations. The main components of logistics costs are transportation and procurement costs and costs for the formation and storage of stocks [1].

If we consider the concepts of "costs" and "expenses" in terms of the norms of the Russian language, then these concepts are synonymous. In economic terms, however, the word "costs" is most often used. As for the concept of "logistics costs", most authors put an equal sign between the terms "logistics costs" and "logistics expenses".

Classification of logistics costs at the same time can be carried out in the methodological purposes to clarify their essence, and in practical, for the organization of accounting and analysis of logistics costs, as well as for calculating the cost price. In Table 1 the most complete and open classification of logistics costs is shown [3].

However, in addition to the classification features given above, logistical costs are divided into explicit and implicit ones.

Explicit costs are costs that accept or can take the form of cash payments to resource providers, which means that they are reflected or can be reflected in the accounts of enterprises.

Implicit costs are implicit expenses, the subject of economic relations obviously does not pay, and therefore it is very difficult to statistically take them into account, and if possible, indirectly.

In modern economic practice, there is a division of costs into effective and real.

Effective costs are the costs associated with the most effective set of transactions in the implementation of this type of activity under this system of public institutions.

Real costs are the costs associated with the actual collection of transactions.

But, if we divide the logistics system into three spheres, then we can consider an enlarged analysis of the structure of logistics costs. This structure is carried out by the following groups of costs: for the purchase, production and marketing of products.

The cost of purchasing products includes the cost of purchasing raw materials and materials, in other words, their cost, the cost of ordering, transportation costs, storage costs of production stocks, costs of investment.

The costs of production include the costs of accepting raw materials and materials, the registration of an order for the production of products, inhouse transportation of products and storage of goods in progress.

Table 1 – Classification of logistics costs

Features	Types of logistics costs
By functional features	Supply costs: - purchase; - transport; - storage; - cargo processing; - administrative and managerial. Production costs: - management of production procedures; - internal plant movement; - inventory management of work in process - control; - cargo processing; - administrative and managerial. Sales costs: - management of order procedures; - transport; - control of stocks of finished products; - content of the warehouse economy
By operational features	Ordering costs Product manufacturing costs Loading and unloading costs Transport costs
By type of expenses	Material costs: - depreciation calculations; - materials, fuel, energy; - salary. Intangible costs: - attracting outside capital; - payment in the form of taxes and payments. Other costs
By place of origin	Purchase department Sales department Production units Transport units Warehouses
In relation to the production process	Production costs Non-production costs
By the way of referring to logistical processes	Direct Indirect

Sales costs include storage costs for finished goods, ordering (packaging, sorting, labeling and other operations), sales, transportation of finished products, as well as costs of invested capital [5].

The composition of logistics costs depends on the following factors:

- specificity of the enterprise;
- scale of the enterprise;
- the type of transport used in the main activity;
- availability of vehicles in the property or in rent;
- type, mass and size of the goods carried;
- container of transported cargo;
- route and type of message;
- distance of transportation;
- organization of warehousing: availability of own warehouse, rent of a place in a warehouse, etc.;

- methods of loading and unloading, used in the main activity;
- taxes;
- customs regulations, etc.

The complex nature and complexity of determining logistics costs are due to the influence of a large number of factors, both external and internal environment of the enterprise.

Analysis of logistics costs is an important element in the management of the logistics chain. It will provide information for their informed planning. The costs are analyzed both in the whole of the logistics system and in the production units, the economic elements of costs and the items of costing, types of activities, units of work, services, stages of the production process and other accounting objects.

For a more successful analysis of logistics costs, the following rules should be adhered to:

- specific types of costs should be clearly identified and justified, which should be included in the analysis scheme;
- identify centers of cost concentration, that is, functional areas of business where significant costs are concentrated and where a decrease in their level can provide an increase in value added to the consumer;
- identify important points of concentration of costs within each center of their concentration, i.e., individual sites within a single cost center;
- costs must be attributed to specific factors relevant to the evaluation of alternative actions and to establish a decision criterion;
- consider all costs in the form of a single stream that accompanies a specific business process;
- cost should be considered as the amount that the consumer pays, and not as the amount of costs arising within the organization as a legal entity;
- costs are classified according to characteristics and analyzed by some method, diagnose costs.

The main task of analyzing logistics costs is to find ways to reduce them. To determine the impact of cost items on their overall value, cost grouping is needed. The analysis reveals the specific reasons for the change in costs, the connection with the cost and other economic results of the production of goods and services.

The object of the analysis of the cost price by calculation clauses is, as a rule, the cost price of the logistical services rendered by the organization. The analysis of the cost price of certain types of services gives an idea of the possibilities of influencing profitability and economic results in general.

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Economics

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IMPROVEMENT OF RISK MANAGEMENT SYSTEM IN SUPPLY CHAINS

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Globalization and development of market relationships require reliable supply chains. Risk situations can lead to destruction of the whole supply system and in order to minimize that a lot of companies have specific programs of risk management. So we should have more detailed information and improve our knowledge about this theme.

Any organization has a lot of risk situations which can lead to financial losses or generate more revenue. The theme of risk management is quite important nowadays because of necessity to minimize costs and improve the profitability of a logistic company. Risk management system in supply chain makes it possible to identify the most vulnerable elements, choose effective and constructive way to optimize problems and get rid of all risks. In reality, it is virtually impossible to list every conceivable risk, and identification highlights the most significant ones that affect the supply chain. Inter-organizational people usually have the most intimate knowledge of their own organization and its conditions, but not necessarily the capability to identify risks. Organizations cannot rely on personal knowledge and informal procedures, but need more formal arrangements.

There are a lot of risks in supply chains and they depend on logistic operations (transport, purchase, warehousing), technologies, ways of development and many other factors.

It is really essential to distinguish between logistic risks and risks in supply chain. Logistic risks occur in different levels of logistic system when we deal with numerous logistic operations such as transportation, warehousing, materials handling, inventory management and can cause problems in material, finance and information flows. Risks in supply chain are the set of problems that we can have due to external and internal factors and that can cause destruction of one or several elements in supply chains.

Nowadays there are a lot of ways of risk assessment and most of them allow investigating processes and procedures, reasons and consequences of ricks, but also there are some disadvantages. Some of the most important problems are labour intensity, sometimes high costs and necessity of having detailed documentation.

The article is devoted to issues of risk management at the enterprise Belshina JSC.

Belshina JSC is one of the world's largest tyremakers. The company develops, markets, and sells more than 300 sizes of tires: tyres for passenger cars, truck tyres, tyres for electro transport, and tyres for tractors and agricultural vehicles.

The enterprise cooperates with resident and non-resident companies using sales transactions. The enterprise has multimodal supply chain that's why we can see a lot of risks. It is necessary to carry out SWOT analysis that consists in the identification internal and external factors and mapping the results.

SWOT-analysis shows that the most dangerous risks are non-conforming deliveries of cargo, unreliable foreign machinery and unreliable delivery.

The most suitable way to reduce all risks possibilities of unreliable foreign machinery is accurate analysis of suppliers and manufacturers, also it is necessary to do marketing researches and have tender between suppliers.

Deliveries of non-conforming cargo were assessed by analysis of human factor.

Calculations of possible operator mistakes will be shown further.

1) The wrong description of raw materials can be accounted according to the formula (1):

$$R = \frac{p}{n}, \quad (1)$$

where R – possibility of risk situation;

P – amount of real cases during the year;

N – the whole amount of purchases during the year.

According to the formula (1):

$$R = \frac{2}{37} = 0{,}054 \text{ or } 5{,}4\%$$

2) Computer program failure is accounting according to the formula (2):

$$R = \frac{P}{N}, \quad (2)$$

where N – the amount of working days.

According to the formula (2):

$$R = \frac{40}{255} = 0{,}1568 \text{ or } 15{,}68\%$$

3) The wrong materials accounting is showed by the formula (3):

$$R = \frac{P}{N_s}, \quad (3)$$

where N_s – the amount of non-planed stocktakings during the year.

According to the formula (3):

$$R = \frac{1}{4} = 0{,}25 \text{ or } 25\%$$

Quantitative assessment shows that risk of non-conforming cargo deliveries with probability 15.36%.

Risk of unreliable delivery is the most serious and dangerous problem nowadays at the enterprise Belshina JSC. The process of research has showed that it would be feasible to use quantitative assessment to the accounting the reliability of the delivery goods.

Calculation of risk indicators and reliability of delivery was carried out for three material flows, consisting of transportation of butadiene-styrene synthetic rubber, natural rubber and anode cord.

New method of accounting showed that the most dangerous delivery connected with synthetic rubber. There are results of analysis at the table 1.

Table 1 – Results of the material flow analysis

The level of responsibility	Intervals of responsibility levels to *synthetic rubber*	Necessary changes
1	$0 \leq K_{N_1}^{all\ risks} \leq 0{,}84$	Implementation of the fine system
2	$0{,}84 \leq K_{N_1}^{all\ risks} \leq 0{,}88$	Absence of an operational management
3	$0{,}88 \leq K_{N_1}^{all\ risks} \leq 0{,}92$	Stimulation

At the end of the research the integrative indicator of all risks were 0.7, that's why the level of responsibility was 1. According to the results it would be feasible to use implementation of the fine system when trucks with cargo late and it is non-fulfillment of transport obligations under contracts.

In order to improve the program of the risk management it is proposed to distinguish three stages: preparatory, main and final parts.

At the preparatory stage staff of the company should carry out forecasting and planning. Specialists collect necessary information and documents to find the most suitable way of risk assessment.

The main part directly concludes the concept of supply chains elements evaluation and further activities to reduce risk possibilities at supply chains.

The final part helps, due to information that specialists have found out earlier, to make a decision how we can impact on risks and prevent the same situations in the future.

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Economics

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TAXES ON POLYETHYLENE BAGS AS A PART OF ENVIRONMENTAL TAXATION

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The article presents classification of environmental taxes in the world taxation system. The author determines the position of the tax on plastic bags among the taxes of the ecological group, considers the experience of tax introducing. It is concluded that it is expedient to introduce this tax in relation to the ecological and economic effect as an environmental tax.

Ecological taxation is one of the ways to collect fees from nature users, which is the most important incentive for rational nature management. The basic idea of introducing special environmental taxes is to try to establish a relationship between the deductions from enterprises in the income of budgets and the degree of harm they inflict on the environment and natural resources.

Among the environmental taxes, there are two groups: regulatory taxes and financing taxes. Regulatory taxes are aimed at preventing actions that are harmful to the environment directly (for example, pollution charges, waste disposal). When determining the rates of these taxes, indicators of technical feasibility and economic profitability within this type of economic activity are taken into account.

Financing taxes are aimed at collecting money and accumulating them in special accounts, in special (ecological) funds used to finance various environmental activities (for example, fees for the restoration and protection of water bodies, allocations for the reproduction of mineral resources, etc.). When determining the rates of these taxes, the profitability of the enterprise and the continuity of financial revenues are taken into account. Unlike regulatory taxes, financing taxes are not directly related to the magnitude of the negative impact on the environment and resources [1].

Tax exemptions are used as an economic mechanism that compensates for relatively high costs for the production of products that meet environmental requirements.

The tax on the use of plastic bags is the taxation on the purchase of plastic bags and containers. The use of plastic containers is a serious environmental problem throughout the world. According to various data, polyethylene decomposes for about 500 years. In addition, there are significant difficulties with its sorting and processing.

Payers of the tax on plastic bags are consumers, as the producers already pay a comprehensive environmental tax. The funds received from the payment of the tax are directed to further collection and processing of household and industrial waste. In return, authorities offer free distribution of reusable bags, biodegradable and paper. In this case, they will have to take utilize polyethylene bags.

Manufacturers of plastic bags are also required to indicate the company name, registration number, date and place of manufacture on the package. If there is a violation of the rules, there is a system of penalties [2].

Currently, there is a discussion on the introduction of a tax on plastic bags as a part of environmental taxes within the legislation of the Republic of Belarus on taxation. In this regard, let us consider the international experience of this environmental tax to assess its effectiveness in Belarus.

In Denmark, this tax was introduced in 1994. The payer of the tax is the seller who provides a free plastic bag is in his stores. Today we can talk about reducing the number of purchased plastic bags by more than 60%. Similar effect from the introduction of tax can be observed in Taiwan. A tax is imposed on each package produced. This reduced the use of plastic containers by 69% [3].

The most radical measures to limit the production and use of plastic packaging have been applied in Bangladesh. This is due to the environmental problem caused by the use of a large amount of plastic. Every day residents of the country used more than ten million plastic bags. This was happening despite the fact that Bangladesh does not have a system for collection, processing and disposal of garbage. In 2002, the country completely banned the production and sale of polyethylene and its products which are dangerous pollutants. Every owner of a plastic bag must pay a fine. Producers face criminal prosecution, which can lead to imprisonment up to ten years and a fine. Such brutal measures significantly reduced the use of plastic bags, which had polluted the environment before. In addition, in two years' time the ban on the production of plastic containers allowed the revival of almost local industry in the manufacture of jute bags. Similar measures were taken by the government of the Indian state Himachal Pradesh. Anyone who uses a plastic bag, will go to jail for seven years and will have to pay a large fine.

In South Africa, the production of bags from cellophane thinner than 30 micrometers is legally restricted. The authorities hope that thicker bags will encourage citizens not to throw them away, but to use them again. These measures are aimed at reducing the production of plastic containers in the country [4].

In Ireland, since 2002, a tax has been imposed on each bag. The payer of the tax is the buyer. In a few months the consumption of polyethylene bags decreased by 90%. 23 million euros collected since then by this tax went to nature conservation.

The USA have a long history of pursuing legislation related to labeling, recycling, and reusing plastic bags. In 1991, Maine became the first state to enact legislation requiring recycling efforts at retail stores. The law prevents retailers from supplying plastic bags unless they provide a convenient storefront receptacle to ensure that used bags are collected and recycled. Since then at least four other states—California, Delaware, New York and Rhode Island— and the District of Columbia have followed suit.

In 2006 and 2009 respectively, California and Delaware passed legislation that requires retail stores to adopt at-store recycling programs. Their similar legislation encourages the use of reusable bags, requires stores to provide an opportunity for their customers to return plastic bags and requires that plastic carry-out bags display a recycling message.

Illinois is the only state that adopted legislation regarding recycling programs in 2016. The house passed a resolution that established "Recycle Thin Film Friday" as an effort to reclaim used thin-film plastic bags and to encourage consumers to use reusable bags [5].

On January 1, 2018, a tax on the bags was introduced in Greece. According to the Ministry of Environment of Greece, annually their citizens use about 4.5 billion bags, that is, about 400 pieces per person. It is also noted that the Greeks consume twice as many bags as on average in Europe. The authorities of the country intend to reduce the use of plastic bags by 75% by the end of 2020 and by 90% until 2025.

In the Republic of Belarus, the authorities are motivated to introduce a tax on plastic packaging due to the environmental situation in the country, the region and the world. Ecologists are concerned about the popularity of plastic containers. Polyethylene is the cheapest polymer, but has already become a problem for the environment. While secondary polyethylene is used for business development, it is also used to make garbage bags, containers, panels, and its processing is complicated. While dense polyethylene is easily crushed, thin bags often require cleaning from the remains of organic products, and they melt in a crusher [4].

It is worth noting that for the Republic of Belarus the tax on plastic bags will be of a regulatory nature. Thus, it is intended to have a direct impact on actions that are detrimental to the environment. Nevertheless, an economic effect is expected, the amount of which can be rationally transferred to the solution of the environmental problems of our time that are relevant for the country. Thus, the introduction of a tax on plastic bags in the Republic of Belarus will ensure a reduction in the volume of production of plastic containers, a reduction in the volume of its consumption and will form the basis for solving environmental problems in the state.

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Economics

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MAIN TRENDS IN THE DEVELOPMENT OF THE GREEN ECONOMY IN THE REPUBLIC OF BELARUS

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This article examines the main trends in the development of the green economy in our country. The study examined the main environmental programs that are used in our country.

Today in the Republic of Belarus various programs of the "greening" ecology measures are implemented and planned for realization. Due to financial support from the EU Delegation and the United Nations Development Program, the project "Assistance in transition of the Republic of Belarus to the green economy" began to be implemented from January 2015 with a total budget of 5 million euros. The project has many partners: the Ministry of Forestry, Housing and Communal Services and the Ministry of Energy under the supervision of the Ministry of Natural Resources; it covers four areas: Minsk, Brest, Grodno and Gomel and will last until December 2017.

The legislative base is also improving. It is expected that in December the Government of the Republic of Belarus will approve the draft of National Action Plan to implement the principles of the "green" economy" in the sectors of the national economy until 2020. The document was prepared by the Ministry of Natural Resources and Environmental Protection. Its strategic goal is to formulate a set of measures to implement the principles of the "green" economy in accordance with the main provisions of the socio-economic development program for 2016-2020 adopted at the fifth All Belarusian People's Assembly. It is assumed that the plan will promote the introduction of the principles of the "green" economy in various sectors of the national economy in order to support the increase of the potential of the Belarusian economy, regional development and improvement of the quality of the main components of the environment [1].

Belarusian enterprises are actively mastering innovative environmental technologies. One of the first to follow this path was the Goznak Paper Mill in Borisov where the project funds are modernizing the production of office paper, which is planned to be launched in 2017. According to the management of the enterprise, recycling of waste paper allows not only to avoid massive deforestation, but also brings production to a new economic level. The capacity of the new line will be 50 tons of finished products per day and 4,500 tons per year. This volume is enough to fully satisfy the demand of the Belarusian market in office paper. The ecological effect is obvious: 3.5 tons of wood is needed to produce just one ton of paper, which leads to cutting down about 400 m^2 of forest. Whereas it is possible to produce up to 750 kg of paper out of one ton of waste paper and protect in such a way about 300 m^2 of forest plantations. It is estimated that if all the waste paper that is now generated in Belarus could be recycled, it would help preserve about 12 thousand hectares of forests.

In addition to the release of environmental paper, the project actively supports the creation of the only nursery in the republic for artificial breeding of black grouse birds in the National Landscape Reserve "Naliboksky". Annually it is planned to release up to 70 birds in the wild here, and to export birds to the countries of Western Europe. Thus, the task of the nursery is to eventually increase the population of this species in Europe [2].

Another task of the project is to introduce the use of green transport. Therefore, in May, the first tourist electric bus appeared on the territory of the Nesvizh castle and park complex. Perspectives for innovation are associated with the possible creation of a pedestrian zone in the historic part of Nesvizh. A similar thing exists in the Republic of Lithuania in the park of the city of Birzai, where electric vehicles are used. However, unlike the Baltic States, green transport in Belarus is not developing so actively.

Also as part of the project, the technology of exploited green roofs which takes into account the climatic conditions of Belarus will be tested. The pilot initiative involves adapting the best practices. The device of the roof with soil cover and green plantations will appear on the roof of the building of the greenhouse of the Maryinogorsk gymnasium No. 5. The design solutions assume an increase in the thickness of the roof pie, the organization of metal enclosures, a two-level drainage (part of the moisture flows, the actual cover, excessive moisture does not penetrate the soil and drips over the surface) [3].

In total, as a part of the transition of Belarus to the "green" economy, public organizations in the regions are implementing 16 unique initiatives. In 2017, all of them will present their results.

Despite the novelty of such a phenomenon as "green" economy and examples of its successful implementation have already accumulated in the world. Thus, in Valencia, Spain in 2000-2004 a collection of

vegetable oil from restaurants and private houses was organized as part of the ECOBUS project. It served for the production of biofuel, which then supplied 480 buses. As a result, emissions of exhaust gases in the region decreased and the functioning of the sewerage system improved. In France in 2006-2007, the PAMELA project was successfully implemented. It was aimed at the operation and dismantling of aircraft with expired service life. The volume of waste left by aircraft and sent to landfills eventually decreased from 45 to 15%. Moreover, in 2001-2005 in the framework of the S-House project, many houses in Austria were built from recycled building materials, but nevertheless maintained high standards of energy efficiency. No need to go far to see the examples: in Bialystok, Poland there is a successful project called the Opera and Philharmonic Theater of Podlaska [4].

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Economics

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PROBLEMS AND PROSPECTS OF MULTIMODAL TRANSPORT DEVELOPMENT IN THE REPUBLIC OF BELARUS

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This article dwells on the necessity of creation of an integrated system of multimodal transport in the Republic of Belarus. Logistic directions to increase effectiveness of mixed transport were researched. Some measures to enhance the development of multimodal transport were proposed.

The process of globalization in the world economy and the increase in transport activity led to the establishment of network of international transport corridors in Europe, two of which cross the territory of the Republic of Belarus. The International Classification define them as number II West-East and number IX North-South. The speed and quality of goods movement through international transport corridors are determined by the level of efficiency of their infrastructure, which gives significant effect and strengthens the competitiveness of the Belarusian transportation among other countries.

The geographical position of Belarus plays an important role in contribution to the development of international transport corridors. Located between the EU and Russia, the republic of Belarus has all the prerequisites to increase road transit of transport system and destinies to act as a «transport bridge» between them. For the Republic of Belarus, the problem of developing transit services and transit transport is of current importance because transportation of goods by road in transit across its territory is carried out by transporters from more than 50 countries. Transit services is one of the key directions of the economic development of Belarus, an important source of foreign exchange earnings and stimulation for creation of additional job opportunities. Freight turnover structure of the Republic of Belarus by mode of transport in 2017 is presented in Figure 1.

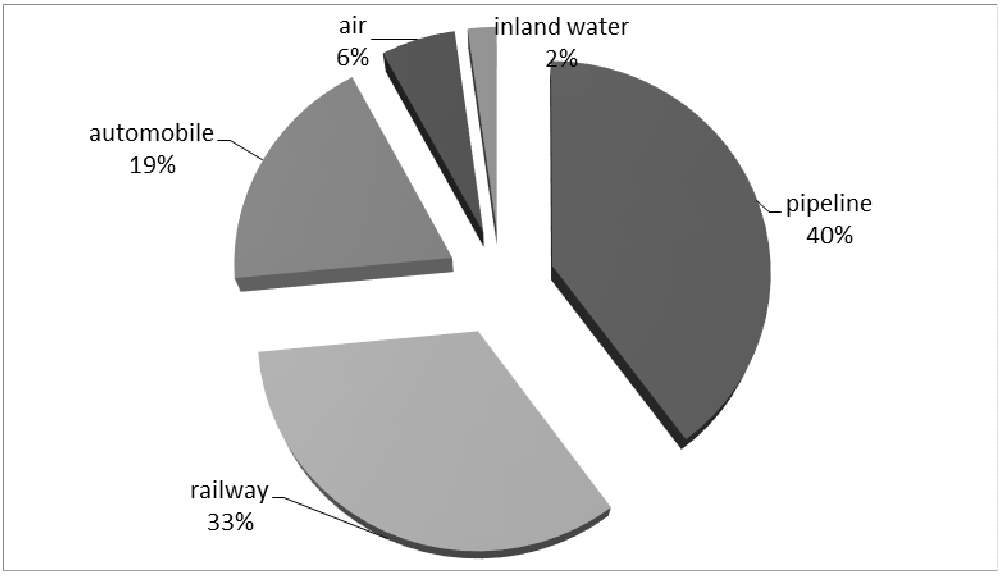

Fig. 1. Freight turnover structure of the Republic of Belarus by mode of transport in 2017

Transport development for Belarussian economy is a task of the first priority. Its share in gross value added of the country remains low, and in the last five years does not exceed 10-11 %. Relatively low contribution of Belarussian transport in gross value added can be explained by inadequate resource management and lack of development of transport service unrelated to transportations, which is 18%. In developed countries, that rate comprises 25-30% [1].

Solution to this problem might be found in the development of a transport and logistics system by creating a network of transport-logistics centres. A prerequisite for this is the developed port infrastructure in

coastal countries bordering Belarus (Ukraine and Lithuania). It makes it possible to create competitive conditions for the transit in the indicated direction.

However, to do this it is necessary to eliminate the impact of constraints on increasing transit flows through the territory of Belarus, namely, the lack of a modern system of intermodal (multimodal, mixed) transport intensively developing in Western Europe on the basis of logistics principles, which ensures the delivery of goods "from door to door" and it's as accurate as a spade.

The formation of a multimodal corridor requires the creation of a unified information support system, which will facilitate its universality and availability of information on the promotion of goods for all participants in the transport and logistics system, starting from the consignor and ending with the consignee. Based on information about the location of the cargo and the vehicle, it is possible to develop not only new approaches and standards of transport services, but also the conditions for the docking of Belarusian information systems with Russian, European and other communications.

Foreign experience shows that multimodal freight transport has its advantages: flexibility in the delivery of goods, the ability to use any type of container, the ability to forward cargo during delivery, door-to-door delivery of cargo, monitoring at any stage of transportation.

Multimodal transportation is the highest type of transportation, which uses at least two different types of transport, in which the following things are exactly calculated and coordinated: the optimal scheme and route of traffic, the time and place of transport, the time and place of goods reloading, provisionally temporary storage cargo, provided for various additional services depending on the complexity and needs of the customer. However, most importantly, it carries out transportation and bears full financial and legal responsibility for the data of specific transportation - a forwarding company. In the practice of foreign trade activities, as well as in economic and legal literature, such transportation is often called "intermodal", "combined", "mixed" [5]. Multimodal goods and freight transportation is the most modern type of cargo delivery used in international cargo delivery. An approximate scheme for transporting goods by combining different types of transport is shown in Figure 1.

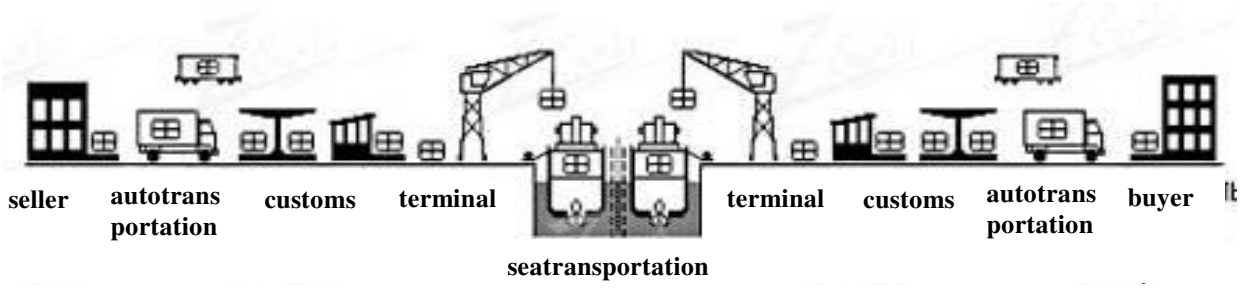

Fig. 2. Scheme of organization of multimodal transportation [2]

The main reasons for the underdevelopment of multimodal transport in the Republic of Belarus are the absence of a special rolling stock (containers, demountable bodies, wagons for the carriage of road trains, etc.) and terminal infrastructure, media and modern intermodal transport technology based on them.

As practice shows, transportation through the territory of Belarus is most often made by means of one type of transport and in 70% of cases, it is cars. To date, as a result of the increase in transportation tariffs, rail transportation has become less expensive in terms of road transport: deliveries with minimal time, which are hardly discernible at cost. In this case, preference is given to road transport rather than the railway.

In addition, the main problem is the unwillingness of customers to transport the documentation independently when they receive their cargo via the railway at the Kalyadichi station. In the Republic of Belarus, the services of customs brokers, which deal with all customs clearance – starting with receiving cargo at the place of unloading containers and ending with the payment of duty for using the container, have not developed enough. Basically, in sea transportations only containers that are owned by the port of shipment are used, which is economically viable in comparison with the purchase of transportation equipment.

The next reason for the lack of development of combined transport in the Republic of Belarus is the comparatively insignificant range of cargo transportation, which makes it seem inexpedient and costly. In almost 70% of cases, road transport is used, and rail and river transport is used less often. The small percentage of the use of air transport is due to its inaccessibility and high cost.

Nevertheless, the development of multimodal transport is necessary for the Republic of Belarus, which is confirmed by both foreign experience and perspective directions of development of transport and logistics defined by the highest state bodies. In the State Program for the Development of the Transport Complex of the Republic of Belarus for 2016-2020 approved by the Council of Ministers of the Republic of Belarus on April 28, 2016, the development of multimodal transport and, in particular, water transport of raw materials and energy carriers that have a stable flow of goods in international traffic are predetermined. Both on the territory of the Republic of Belarus and within the framework of international cooperation with Ukraine, there will be efforts to create conditions for attracting an investor in order to form the necessary infrastructure that ensures the processing of river-sea vessels in the Republic of Belarus [3].

The formation and development of a transit-attractive transport and logistics system on the territory of Belarus implies the further creation of multimodal multifunctional transport and logistics centers, including cross-border terminals. In particular, it is necessary to exclude cases of irrational specialization, provide the availability of access to railroads, open departmental customs points in the centers, pay more attention to water and air transport. Therefore, a more detailed research of the feasibility studies of logistics centers is needed and the experience of successful foreign projects should be taken into account (for example, the European Trade and Transport Center in Frankfurt am Oder, the Bologna Freight Village cargo village in Italy, the Malashevichi transboundary transport and logistics center in Poland). It is also important to take into consideration that in Western Europe the activities of transit logistics centers provide 25-40% of the income of the transport complex in the countries [4].

Thus, at the current stage for the development of multimodal transport in the Republic of Belarus, the following measures should be taken:

1. Development of logistics in the direction of international logistics (taking into account the country's transit potential and geographical location with the prospect of creating a kind of center of the Trans-European Railway).

2. Modernization of cargo terminals in order to increase their throughput.

3. Maximize the available technical capabilities of the trans-port-logistical centers of the Republic of Belarus.

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UDC 368

THE PROBLEMS OF PROPERTY INSURANCE AND THE WAYS TO SOLVE THEM

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The comprehensive study of the property insurance problems has been conducted. The ways of the insurance activity development have been studied and systematized.

The transition to the market economy contributes to the emergence of a great amount of economic entities that are interested in protection of their business, their property and their income from a variety of natural disasters, from mistakes in their commercial activity or commercial activities of their partners [1].

In these conditions, the government is quite naturally losing its traditional function of the indemnity. This role assumes unfolded and stable insurance system. Today it is difficult to offer a more effective protection mechanism.

Property insurance is one of the types of insurance that never loses its relevance and is always in demand at the insurance market. Lots of Belarusian insurance companies have the license for this type of service. Its economic purpose is to compensate the damage caused by an insured event, and to protect the property interests related to the possession, use or disposal of the property. However, the level of insurance protection of the property of citizens and organizations in the Republic of Belarus is still very low.

The main problems of the property insurance in the Republic of Belarus are [2]:

- a low degree of coverage of the Belarusian insurance market (less than 1% of GDP);
- the absence of free competition between state and private insurance companies (including foreign capital), the insufficient use of market principles and approaches, which leads to an overestimation of insurance rates, the absence of incentives for the development of innovative insurance products, poor quality and efficiency of service;
- the priority to the development of compulsory insurance (more than a half in the structure of premiums collected), the absence of the insurance culture;
- the limit of the opportunities in state organizations to choose insurers, they must insure their risks in the state insurance companies;
- the insufficient capitalization of the insurance market, which limits the possibility of insurance companies to take risks, resulting in instability in the sector;
- the inability to include the expenses for lots of the voluntary insurance services in the cost, which sets back the development of these types of insurance, deprives economic entities of the opportunity to work in accordance with the international standards;
- the concentration and monopolization of reinsurance within the country, which is a risky deal for the economy;
- the underdeveloped segment of the long-term insurance (life insurance), which can be an important source of the inward investment for the economy.

According to economists, the following changes can bring the positive effect in the property insurance [3]:

- the alignment of the conditions for business management of state and private companies (including foreign capital), which will lead to the increased competition in the sector and increased efficiency of the insurers work, the growth of the overall market;
- the elimination for government organizations of the requirements to buy insurance services only in state-owned insurance companies, the choice of an insurer should be carried out on the basis of economic calculations, but not the form of ownership;
- the expansion of the list of the voluntary insurance services, which may be included in the cost (for example, the insurance of business risks, professional liability), their clear definition, which will allow private insurance companies to develop, and which will contribute to the creation of the insurance culture in the country;
- the creation of incentives for increasing the capitalization of the insurance sector;
- the removal of obstacles for the arrival of the foreign capital in the insurance sector (in particular, life insurance, risky types of insurance), which will increase capitalization and bring new technologies and progressive experience in the market;

- the elimination of the isolation of Belarusian insurers from the international insurance market, because the lack of competition reduces the efficiency of local insurers work and sets back the introduction of new insurance services and technologies;
- the de-monopolization of the national reinsurance system, as the reinsurance for its intended purpose must be international (risk dispersion), providing to insurers the possibility of making decisions about their reinsurance risks involving BNRO based on the market factors by themselves.

Let us comment on the proposed directions for the development of the Belarusian insurance market. Certainly, the alignment of the conditions for state and private companies doesn't exclude a control over the quality and financial stability of the insurance operations. During the process of creation of incentives to increase the capitalization of the insurance sector, first of all, it is necessary to determine the composition of the insurer capital elements which should be increased. The removal of obstacles to the arrival of foreign capital to the insurance sector should be done thoughtfully and carefully. The foreign experience of the attempts to liberalize the insurance market have shown its unviability and many modern practitioners agree on the necessity of protection of the national insurance market from foreign competitors. Moreover, the level of the capitalization of the Belarusian insurance companies will not sustain the onslaught of the foreign competition and at best, there will be only state-owned insurance companies with the Belarusian capital at the Belarusian insurance market. It is necessary to increase the capitalization significantly to enter the international insurance market. It is rather a strategic than a tactical goal of the Belarusian insurance market. Finally, speaking of the de-monopolization of the national reinsurance system, it should be noted that Belarusian insurance companies cope well with the performance of the reinsurance functions in modern conditions of the national insurance market development. Here we are talking about significant investment resources, which will remain in the Belarusian financial market; at least it is not effectively to give them at the disposal of other countries. The active development of the international reinsurance operations will have to take place only in the case of a risk of the default of the accepted insurance obligations by the Belarusian reinsurance companies.

The achieving of the positive effect of property insurance is regulated at the state level by the Republican program of insurance activities. Its main priorities are to raise the level of the insurance operation of the market by responding to the needs of the insurance protection of people, organizations and the state, the growth of the efficiency and stability of insurance companies, the strengthening of their competitiveness.

According to the program, by 2020 the insurance market of the Republic of Belarus must have a degree of the financial stability and competitiveness enabling to confront the challenges associated with the penetration of financial services of global players with great potential at the Belarusian market.

The aim of the insurance business development is the construction of the insurance market in the Republic of Belarus, which would obtain a sufficient level of capitalization and financial stability and would be capable of competing in the open financial market.

The main directions of the development of the insurance business in Belarus [4] are:

1. Improving of financial stability at the insurance market:

- it is planned to determine the minimum size of the authorized capital of insurance companies in the national currency (with an annual adjustment for inflation), which will allow to implement the prudential requirements by the insurance companies;
- improvement in insurers activities monitoring on the basis of assessment of the indicators characterizing the financial position of insurance companies and their resistance to internal and external risk factors;
- a change in approaches to the calculation of the insurance company capital on the basis of the international standard Solvency II.

2. Improving of the insurance activity efficiency:

- it is planned to abolish unnecessary administrative barriers, i.e. to move from mediation to the notification procedure of the insurance rules submission, to cancel the obligation for insurance companies to place and take into an account the money of the insurance reserves on the special accounts, to abolish the norm of doing business expenses;
- it is planned to reform the conditions for the insurance activities management in the voluntary insurance segment related to life insurance;
- the possibility of abolishment of the restrictions on the certain types of compulsory insurance will be considered, first of all for the insurance companies of the state ownership of more than 50%. Another thing that will be considered is the insurance responsibilities by the state departments and legal

entities when the state owns their controlling stake, their property interests only in insurance companies with state ownership of more than 50%.

3. Increasing of the automation level of the insurance services and business processes of the insurance companies: it is planned to improve the system of registration and storage of the information about the concluded insurance contracts, insurance cases, and payments on them in a single information center.

Thus, the insurance contributes to both technological and economic development and at the same time stabilizes the social situation, because reducing the dependence of the property position of participants of economic and other social life from all kinds of accidents makes their social and economic situation more stable.

On the other hand, insurance companies collect large amounts of capital and invest them in the banking and other sectors of the economy that contributes to the development of the economy as a whole. Insurance business is the most important sphere of business and it is going to become more widespread and varied in the process of development of the market economy. It is necessary to encourage the emergence of new types of insurance at the insurance market, which can be restricted only by general principles in the case of getting out of law restrictions. Complex systematic reforms are required for the development of the Belarusian insurance market.

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Economics

UDC 657

MANAGEMENT ACCOUNTING: ESSENCE AND OBJECTS

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The article presents systematization of the points of view of authors concerning economic essence of the concept "management accounting", the comparative characteristic of accounting and management accounting and the place of management accounting as a part of accounting. The author also introduces his definition of management accounting.

At the present stage of development in the Republic of Belarus organizations of any form of ownership seek for minimization of their own expenses and for increases in their equity. Development and competitiveness of the enterprise is impossible without technical improvement of the industry, updating of technological base, search and application of new methods of production organization and management. Due to the Decree No 78 of the President of Republic of Belarus "On measures of increasing the efficiency of the social and economic complex of the Republic of Belarus" dated 23.02.2016 the organizations are obliged to provide a set of measures to decrease product cost by 25% which cannot be developed without effective management accounting.

However, after studying interpretations of the concept of management accounting presented in scientific economic literature, normative legal acts of the Republic of Belarus and foreign countries and International Financial Reporting Standards, it was revealed that there is no common definition of this economic category.

Many Belarusian (I. Fridkina, G.Ya. Zhitkevich. I.A. Hitrova, A.P. Mikhalkevich, etc.), Russian (L.A. Tretyakova, T.A. Vlasova, T.P. Karpova, A.A. Zhogalev, E.O. Prokina, D.I. Hodyrevsky, P.M. Manchusov, M.K. Sanin, etc.) and foreign authors (Skoun T. M., E. Kasanen, K. Lukki, A. Sitonen, etc.) pay much attention to the basics of management accounting.

According to T.P. Karpova "… the overall efficiency of enterprises depends much on management activities providing real independence of an enterprise, its competitiveness and place in the market"" [1, p. 3]. It is important to emphasize that in their turn "… management activities have to lean on a modern and effective information system"" [1, p. 3].

It is also necessary to note that Tretyakova L.A. also draws attention to the importance of management accounting. "… methodological and organizational support of management accounting processes, increase in their importance, significance and practical value at the present stage of development of science, equipment, technologies and factors of external and internal economic environment is becoming the major element in economic analysis and optimization of the whole accounting system of the organization" [2, p. 7].

At the present stage of development, most authors consider management accounting to be closely connected with accounting, but some authors note that management accounting is much broader and must include more indicators for the correct representation to the head of an organization.

So according to L.A. Tretyakova "… management accounting is a logical consequence of development of accounting" [2, p. 8]. Whereas Kondrakov N.P. thinks that the basis of the management accounting concept is information about all aspects of activities of an organization.

Consideration of approaches to defining the concept in scientific economic literature in table 1 allows allocating various attitudes towards its essence.

Thus, the results of the research substantiate the conclusion that most authors believe that management accounting is a part of accounting but also depends on information of all divisions of an organization.

In our opinion, the most reasonable definition of management accounting is offered by M.K. Sanin: "management accounting is a branch of knowledge that deals with product (goods, services) cost calculation, evaluation of the financial result of a separate division, the perspective of work with clients of the company and other information about activities of the enterprise, and creates a complex system to support administrative decisions." [3, p. 6]. But also it is necessary to mark out P.M. Manusov who understands management accounting as "… a system of collecting, measuring and processing of information on the expenses and results of economic activities of the enterprise to assess the efficiency of this activity for the purpose of planning and increasing of competitiveness (production improvement, cost reduction, etc.)" [4, p. 13].

Table 1 – Systematization of the points of view of authors concerning economic essence of the concept "management accounting"

Authors	Distinguishing features
L.A. Tretyakova, G.Ya. Zhitkevich, G.G. Nor-Averyan, A.A. Zhogolev, A.V. Kryukov, T.A. Koltsova, T.G. Vorobyova, V.N. Suvorova, E.Yu. Voronova, O.B. Bakhrusheva, L.I. Egorova, E.B. Fokina, A.D. Nasyrov, L.I. Trinka, I.V. Brezhneva	The authors who consider management accounting to be a part of accounting
N.P. Kondrakov, T.P. Karpova, L.V. Pashkov, E.O. Prokina, O.I. Golikov, D.V. Mandzhiyev, A.Yu. Pham, D.V. Kovryakov, V.E. Kerimov, S.L. Musin, D.I. Hodyrevsky, K.A. Barabina, D.O. Tavasiyeva, A.A. Orekhova, I.V. Ovchinnikova, K. Afyorov, S.D. Dzhaferova, P.M. Mansurov, M.K. Sanin	The authors who think that management accounting depends on information of all divisions of the organization and on her workers
T. Byorns, G. Stalker, P. Lawrence, J. Lorsha	The authors who think that management accounting depends on variables of the external environment
M. Foucault, A. Vildavski, N. Kayden, T. Hopper, Nayts, D. Kollinson, M. Kowaleski, T.A. Vlasova	The authors who consider management accounting as a result of interaction between labour and capital, personality and society, organization and social institutes

Thus, the results of the research substantiate the conclusion that most authors believe that management accounting is a part of accounting but also depends on information of all divisions of an organization.

In our opinion, the most reasonable definition of management accounting is offered by M.K. Sanin: "management accounting is a branch of knowledge that deals with product (goods, services) cost calculation, evaluation of the financial result of a separate division, the perspective of work with clients of the company and other information about activities of the enterprise, and creates a complex system to support administrative decisions." [3, p. 6]. But also it is necessary to mark out P.M. Manusov who understands management accounting as "… a system of collecting, measuring and processing of information on the expenses and results of economic activities of the enterprise to assess the efficiency of this activity for the purpose of planning and increasing of competitiveness (production improvement, cost reduction, etc.)" [4, p. 13].

According to the Law of Republic of Belarus No 57-3 as of 07.12.2013 "On accounting and reporting", where accounting is presented as "… a system of ongoing creation of information about assets, obligations, equity, income, expenses of the organization in value terms by means of documenting, stocktaking, accounting assessment, double-entry bookkeeping, generalizing in reports" it is possible to draw a conclusion that accounting has accurate definition, unlike management accounting [5].

Based on the data provided above it is possible to compare the concepts of accounting and management accounting (see table 2).

Table 2 – Comparative characteristics of accounting and management accounting

Field of comparison	Management accounting	Accounting
1	2	3
Purpose	For internal planning, management, control, regulation and forecasting in an organization	Financial documents are made for the users out of the organization
Subject	Production activities of an organization in general and her separate structural divisions	Economic activities of an enterprise or an individual which are carried out by economic means
Mandatory requirement	Depends on the will of the head	Mandatory
Information Users	Internal users	The owner of the property of an organization, investors, creditors, public authorities, other persons interested in the information contained in the reports

Continued

1	2	3
Basic structure	The structure and form depends on the inquiries of users	Financial documents are formed for users out of the organization
Type of information	In value and natural terms	In value terms
Time limits	Depends on inquiries of the user	Established by the legislation
Information accuracy	Due to operativeness there can be approximate information	High level of accuracy
Subject of reporting	Depends on inquiries of the user	The whole enterprise
Responsibility for correctness	There are no norms and rules, the head himself can make someone responsible for the wrong administrative decision	Tax authorities can inflict penalties
Rules	Any internal rules depending on their usefulness	Performed according to norms and rules in the required form
Information Transparency	Trade secret	Not a trade secret
Objects	Property (economic means) of the organization, sources of property formation, economic operations causing change of property and sources of their formation	Property (economic means) of the organization, sources of property formation, economic operations causing change of property and sources of their formation

Having investigated these approaches it is possible to draw a conclusion that management accounting is very closely connected with accounting. Management accounting is created to serve specific inquiries of the head of the organization and accounting data is taken as a basis because accounting and management accounting objects correspond to each other (see fig. 1).

The difference between accounting and management accounting is that the latter is organized and formed in each organization independently and the structure of the administrative reporting isn't regulated.

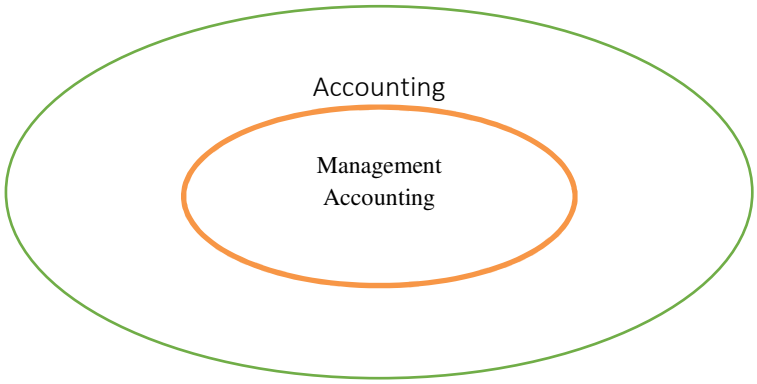

Fig. 1. Representation of management accounting as a part of accounting

In management accounting there is information which is consolidated, convenient and detailed for the specific inquiries of the head.

Thus, it is possible to draw a conclusion that accounting represents the quantitative aspect of all accounting items of the enterprise, and management accounting represents their qualitative characteristics and the efficiency of use.

According to the author, it is also the main difference between accounting and management accounting. Among their common features, it can be noted that both accounting and management accounting are directed to have the exact idea of the condition of an organization, but an organization itself decides whether management accounting will be kept in parallel with accounting, whether standards of IFRS will be taken into account, etc.

The research of the economic essence of management accounting in scientific economic literature of Belarusian and foreign authors and in legislation sources of the Republic of Belarus has allowed to formulate a definition of this category.

Management accounting is an order of collecting, analytics, information processing of the results of economic activities of the organization in general and her separate divisions for forecasting, planning of administrative decisions and increase in competitiveness of the organization.

The proposed information will help to align the terminology applied in normative documents on accounting and to obtain full and reliable registration information about financial instruments of economic entities that will meet the requirements of investors.

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Economics

UDC 332.1

DIRECTIONS OF IMPROVING BUSINESS ENVIRONMENT FOR STRENGTHENING ITS POSITIVE INFLUENCE ON THE DEVELOPMENT OF THE LABOR MARKET IN THE REPUBLIC OF BELARUS

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The necessity of studying the factors of the business environment affecting the labor market is justified. The essence of the business environment is presented, as well as, the composition of its factors is outlined. The peculiarities and problems of the labor market of the Republic of Belarus are revealed. The main recommendations for the development and improvement of the business environment with a purpose to enhancing its positive influence on the labor market.

Introduction. The labor market is the most important indicator of the development of the national economy. In the labor market not only interests of the worker and the employer are intertwined, but reflect all socio-economic phenomena occurring in society. In this connection studying the factors, which have an influence on the development of the labor market in the region and the state acquires a special value. The composition of these factors, in our opinion, combines the concept of "business environment". Thus, the improvement of the business environment implies the possibility of strengthen its positive influence on the labor market and employment.

Task information. The business environment can be considered as a set of external forces, factors and institutions, influence on the functioning and development of corporations, organizations (enterprises), firms of different types of economic activity. The labor market is also subject to the impact of the business environment and is influenced by the factors shaping it, such as, for example, legislative, political, social, technological. In order to improve the situation on the labor market in the region and the state, it is necessary to improve the business environment.

Result, their discussion and perspectives. The Belarusian labor market is characterized by the traditional nature of the forms and structure of employment and cannot be classified as a flexible and effectively regulated market. Current trends in socio-economic development of Belarus are conditioned, on the one hand, by the appearance of negative social phenomena in the labor market (qualitative discrepancy between the supply and demand structures of the labor force, part-time employment), and on the other – filling new promising content of already existing phenomena and processes (flexible forms of employment, human potential in the sphere of labor, competitiveness of labor resources). Against this background possible and necessary to transform the structure of employment as a key condition of rational change in the structure of national production (the creation of high-tech industries, the development of innovative services) [1].

Based on this research the next can be noted [2]:

1) Labor market, obeying in general the laws of demand and supply, on many principles of the mechanism of its functioning is a specific market, where the regulator is not only macro- and microeconomic factors, but also social and socio-psychological factors.

2) The finite purpose of the labor market is the satisfaction of the vocational, labor and vital interests of the economically active population, including social protection, providing the national economy with the necessary personnel and the reaching the maximally full and continuous employment, with considering the need for a partial working week, etc.

3) The state of the labor market in the CIS countries requires the reforming at not only the legislative level, but also reconstruction of the education system, social protection, and taxation at the institutional level.

4) The main objectives of employment policy and the labor market are raise of the efficiency of use of labor resources and work force's competitiveness in the labor market.

Summarizing all of the above mentioned, let us pick out the main recommendations for the development and improvement of the business environment from the position of strengthening its positive influence on the labor market.

1. *The development of the information society and the widespread introduction of information and communication technologies* («Informatization»). The implementation of this direction is a key component of the country's innovative development strategy [3].

Information and communication technologies will become a tool, that will provide the development of a high-tech sector of the economy, will create conditions for the transition to a digital economy, improving the

institutional and the formation of a favorable business environment.

2. The emancipation of business initiative and formation of favorable conditions for doing business (decline the administrative load, creating a specialized portal that provides exhaustive information on the creation and doing business, the development of support infrastructure, etc.) [3].

Respectively to solve the problems, it is necessary to carry out the structural reforms in the labor market in order to solve long-term challenges.

3. Increase the competitiveness of the work force through the use of effective mechanisms and incentives for continuous professional education of staff throughout the working life, development of the vocational orientation system for people. Emphasis should be concentrated on expanding employment in services, training for new market-based services and social infrastructure, especially in rural areas [4].

4. Scaling down of informal employment. Assumes the functioning of the tax and customs systems, with considering their potential to effectively promote the reduction of informal employment. It should also be provided presumptive taxation of small and medium-sized enterprises and the gradual transfer of tax burden to larger taxpayers [4].

5. Creating new jobs and provision of active employment. It is envisaged to significantly improve the business environment. The planned measures will be aimed at the maximum emancipation of the business initiative. The most important criterion for their implementation is a harmonious, mutually beneficial partner development of private and state business [3].

The main task in this case is creating conditions for the growth of labor productivity, which will increase the income of the population. It can be realized through the liberalization of the labor market with the transfer of social functions performed by regulation of salary and mobility of labor resources, social protection system. The main direction of reforms should be the stimulation of labor resources mobility, which implies an increase in opportunities for the implementation of private initiative in the economy. Accordingly, it is necessary to continue supporting the development of small and medium-sized businesses, as well as to provide further improvement of the business environment. The accompanying effect of a favorable business environment can be the activation of return migration, which must also be supported by administrative measures.

Return migration transforms costs from brain drain into additional benefits for the economy, since returning citizens bring with them new knowledge, skills, technologies and investments.

In this way, improvement of the business environment will contribute activation of development of labor market in the Republic of Belarus and its regions.

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Economics

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ROLE OF TRANSPORT IN THE FORMATION OF THE LOGISTICS SYSTEM OF THE REPUBLIC OF BELARUS

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In the article, based on empirical research, the problems of transport development are identified, prospective modes of transport are identified for the development of the logistical system of the Republic and the scientific problem of indirect consideration of the problems of the development of transport modes by scientists is revealed.

The goal of the formation of a perfect logistic structure in the Republic of Belarus is not only the rational placement of logistics facilities and their differentiation in terms of the level of servicing of goods flows, but also the increase in the efficiency of transport systems in the country [1, c. 3]. Without the efficient operation of transport, the formation of transport and logistics centers in the Republic will not yield a tangible positive result, and it will not be possible to optimize internal and external material flows in order to minimize common logistics costs. Also, within the transport system it is necessary to develop various types of transport ensuring the delivery of goods and raw materials from suppliers to the final consumer in the shortest possible time.

At the same time, conducted empirical studies based on official statistical data of the National Statistical Committee of the Republic of Belarus [2], the contents of two program documents (the Program for the Development of the Logistics System of the Republic of Belarus for the Period until 2015 [1] and the Concept of the State Program for the Development of the Logistics System of the Republic of Belarus for 2016-2020 [3]), and the results of the exchange of experience of scientists and practitioners at the events held in Minsk in 2016 and 2017 scientific forums within the framework of the Belarusian Transport Week indicate that today in the transport system of the Republic of Belarus there are a number of problems, without eliminating which the formation and development of the logistics system can be considered impossible.

The analysis of cargo transportation by mode of transport in the Republic of Belarus in the course of 2011-2016 makes it possible to distinguish the following problems (Table 1): - throughout the period of 5 years for all types of transport there is an annual reduction in the transportation of goods, which decreased in 2016 year by 18% compared with 2011; - for the same period, the transportation of goods by rail decreased by 20% and in 2016 amounted to a minimum value; - approximately in the same volumes (by 17%) there was a reduction in the transportation of goods and road transport, where the same value of 2016 was minimal for the analyzed period; - Even greater rates of cargo transportation by inland waterway transport - almost 3 times, and in 2016 also amounted to the minimum value.

Positive dynamics was noted for 2011-2016 only in the transportation of goods by air, which increased over a period of more than 6 times, and in 2016 amounted to the maximum volume.

Table 1 – Transport of goods by mode of transport in the Republic of Belarus for 2011 - 2016 (thousand tons)

Type of transport	Year (percentage of previous year)					
	2011	2012	2013	2014	2015	2016
All types of transport	493 275	484 371 (98%)	471 210 (97%)	467 486 (99%)	447 212 (95%)	417 643 (93%)
Railway	152 775	153 673 (101%)	140 040 (90%)	141 437 (101%)	131 439 (92%)	126 758 (96%)
Automotive	190 989	189 302 (99%)	192 475 (102%)	191 660 (99%)	180 226 (94%)	162 579 (90%)
Inland waterway	6711	4 023 (60%)	4 486 (112%)	3 758(84%)	2 960(79%)	2 144(72%)
Air	9	14 (156%)	11 (79%)	41 (373%)	39(95%)	57 (146%)

Note: compiled on the basis of official data of Belstat [2]; pipeline transport was not analyzed.

However, the share of transportation of goods by this type of transport is insignificant in the total volume of goods, and was from 0.002% in 2011 to 0.01% in 2016 in the total volume of transported goods in the Republic.

Analyzing the dynamics of another indicator ("cargo turnover") in tonne-kilometers, one can find some differences in the dynamics of the previous one (Table 1) for the same period, as evidenced by the data in Table 2.

Table 2 – Freight turnover by mode of transport in the Republic of Belarus for 2011 – 2016 (million ton-kilometers)

Type of transport	Year (percentage of previous year)					
	2011	2012	2013	2014	2015	2016
All types of transport	134 269	131 684(98%)	130 752(99%)	131 402(100,4%)	125 957(96%)	125 820(99%)
Railway	49 406	48 351(98%)	43 818(90%)	44 997(103%)	40 785(90%)	41 107(101%)
Automotive	19 436	22 031(113%)	25 603(116%)	26 587(104%)	24 523(92%)	25 239(103%)
Inland waterway	143	134(94%)	84(63%)	49(58%)	21(43%)	21(100%)
Air	27	34(126%)	27(79%)	65(240%)	77(118%)	108(140%)

Note: compiled on the basis of official data of Belstat [2]; pipeline transport was not analyzed.

So, despite the fact that the freight turnover for all modes of transport from 2011 to 2016 decreased by 6%, it was not so constant for the period, although it amounted to a minimum volume in 2016. With a decrease in freight turnover in rail transport in 2016 compared to 2011 by 20%, in 2016 there was a slight increase (by 0.8%) compared to the worst (2015). The most problematic situation with cargo turnover occurred on inland waterway transport, where its deterioration was the largest (a fall for a period of almost 7 times), and the value is the lowest for the analyzed period.

Unlike the dynamics of the indicator "Freight", cargo turnover has improved not only by air transport, but also by road transport. Thus, the freight turnover of road transport for the analyzed period increased by 29% in comparison with 2011 in 2016 and slightly lost only in 2013 and 2014.

In air transport, freight turnover had a steady growth trend throughout the period, and increased 4 times, although its share in total freight turnover by all types of transport was also not significant, as well as cargo transportation, and amounted in 2011 to only 0, 02%, and in 2016 it is 0.09%.

Analysis of the dynamics of the analyzed indicators (Tables 1 and 2) characterizes the development of the transport system in the Republic of Belarus as a whole problematic, and at the same time - heterogeneous. At the same time, this heterogeneity has not received due attention either in the development of state-level program documents or in the scientific research of scientists dealing with problems of transport development in the Republic of Belarus.

Thus, in the Program for the Development of the Logistics System of the Republic of Belarus for the period until 2015 [1], the problems of transport development are not considered at all, either by its types or in general. The same goes for the content of the Concept of the State Program for the Development of the Logistics System of the Republic of Belarus for 2016-2020 [3]. At the same time, the same Program highlighted the acute problem of the development of the logistics system, which can not be resolved without the development of the transport system and the improvement of the work of transport, namely: not strong enough links between producers, suppliers and consumers, which must be integrated into one system [1, p. 1].

The majority of economists in the Republic of Belarus distinguish the problems of development of transport in general, without detailing its separate types, namely:

- large economic costs for the creation and maintenance of existing transport systems [5, p. 11];
- a large number of rules, regulations and features in the transport sector that do not allow to automate the process of concluding and executing a contract and the complexity of the work of the supernumerary situation of freight forwarders, the distrust of cargo owners [6, p. 7];
- low level of comfort and ecological compatibility [7, p. 15];
- inefficiencies in the use of integrated mechanization and the lack of new generation machinery and equipment [8, p. 25].

The same deficiency, respectively, exists in the state-level program document, which focuses on transport in general in the context of the development of transport and logistics centers, the purpose of which is defined as the need to "provide a full cycle of services for delivering goods to the client" from door to door, "integration into international transport and logistics networks "[3, p. 4]. At the same time, the priorities of the same document are determined in the same document, the solution of which will contribute to the development of

the logistics system of the Republic of Belarus by 2020, namely: the need to improve conditions and implement measures to facilitate the provision of logistics services and ensure the development of the logistics system of the Republic of Belarus; creation of conditions and implementation of measures ensuring the development and effective use of transit potential; development of information and communication support of logistics activities; expansion of international cooperation in the field of logistics, maximum integration into the international logistics system; providing reconstruction and upgrading of infrastructure necessary for transit through the territory of the Republic [3, p. 2–5]. It is not possible to solve these problems without a formed transport system.

At the same time, some Belarusian economists singled out solutions to certain problems in the transport system of the Republic of Belarus, which relate to certain modes of transport. So, to solve the problems of transport development as a whole - as a component of the logistics system, scientists offer the following activities:

- introduction of technological changes, stimulating the transition to digital workflow [9, p. 9];
- creation of the system of electronic certification of the transport corridors of the EAES [9, p. 10];
- logistics verification (use of a digital platform by the business to create additional value of the service by combining consumers and service providers without involvement of intermediaries) [6, p. 5];
- use of modern virtual modeling tools [10, p. 13];
- the creation of an intelligent multimodal transport system [11, p. 21];
- creation of a new scheme for the formation of a fleet of vehicles using the system of industrial leasing and partnership with manufacturers of modern vehicles [4, p. 28].

To solve the problems of the development of motor transport, the most interesting are such activities as:

- the use of hydrogen as an alternative fuel [7, p. 16];
- development of the world segment of electric vehicles [7, p. 18];
- the introduction of a new bulldozer-loader with transforming working equipment [8, p. 26];
- the implementation of the intellectual transport system "E-Trak" [9, p. 10].

For the solution of the problems of the development of inland water transport, such activities as: - the introduction of information support systems in the Republic of Belarus on the basis of modern means of communication and information technologies - river information systems [12, p. 37, 40].

To solve the problems of air transport development, it is of interest to introduce automatic dependent surveillance (the method of observation, according to which the aircraft automatically provides information to the specific or any consumer from the airborne flight control systems of an aircraft) [13, p. 32].

Obviously, most of the activities relate to technological innovations that need to be implemented on all types of transport to solve the problems of the development of the transport system in the Republic of Belarus. At the same time, the negative fact of the results obtained in Minsk in 2016 and 2017 attracts attention. scientific forums within the framework of the Belarusian Transport Week that they were not offered effective measures to eliminate the problems of railway transport development in the Republic of Belarus with the fact that it is precisely this type of transport that significantly reduces both the volumes of cargo transported during recent years and the freight turnover (tables 1 and 2).

Thus, the result of the conducted scientific researches makes it possible to draw the following conclusions: the program documents aimed at the development of the logistics system in the Republic of Belarus do not take into account the development of certain modes of transport, which requires their refinement; economists offer effective technological innovations that will solve the problems of the development of certain modes of transport and increase the volume of transported goods and freight turnover in the logistics system of the Republic of Belarus; The most dynamically developing types of transport in the Republic of Belarus can be considered automobile and air.

A promising direction of further scientific research can be considered the forecasting of the development of one type of transport in the Republic of Belarus in the context of the development of the logistics system until 2020.

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UDC 675

CONSOLIDATED FINANCIAL STATEMENTS IN ACCORDANCE WITH IFAS AND BELARUSIAN LEGISLATION

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The article deals with the study of consolidated financial statements and provides a comparative analysis of the international standards and the Belarusian legislation concerning the preparation of the statements.

IFAS 34 defines consolidated financial statements in the following way:

Consolidated financial statements are financial statements that present the assets, liabilities, equity, income, expenses and cash flows of a parent and its subsidiaries as those of a single economic entity. [1].

In the law of the Republic of Belarus №57-З this concept is disclosed as follows:

Consolidated financial statements are financial statements of a group of entities (business group, holding company, business entity and its unitary enterprises, subsidiaries and affiliated companies, unitary enterprise and its subsidiary unitary enterprises) that are presented as financial statements of a single economic entity.

However, in our opinion, the most complete and identifying is the following definition:

Consolidated financial statements are financial statements of a group of entities that are in a certain relationship and / or in a certain way interconnected, which are presented in the form of a single entity financial statements.

International standards require an entity (the parent) that controls one or more other entities (subsidiaries) to present consolidated financial statements [3].

The Law of the Republic of Belarus [2, item 7, article 14] establishes that the consolidated statements are prepared for the following groups of entities: holding; business entity and its unitary enterprises, subsidiaries and affiliated companies; unitary enterprise and its subsidiary unitary enterprises.

However, the management company of a holding has the right not to prepare annual consolidated financial statements, unless otherwise provided by law [4, п. 13].

Table 1 compares the composition of accounting (financial) statements according to international standards and that one according to the Belarusian legislation.

Table 1 – Composition of Accounting (Financial) Statements

According to the Belarusian legislation							According to international standards	
Commercial Organizations			Non-profit Organizations				Commercial Organizations	
Annual Reporting	Quarterly Reporting	Monthly Reporting	Annual Reporting	Quarterly Reporting	Monthly Reporting		Annual Reporting	Interim Reporting
Balance Sheet	+	+	+	+	+	+	Financial Position Statement	+	+
Profit or Loss Statement	+	+	–	+	+	–	Statement of Profit or Loss and Other Comprehensive Income	+	+
Changes in Equity Statement	+	+	–	–	–	–	Changes in Equity Statement	+	+
Cash Flows Statement	+	+	–	–	–	–	Cash Flows Statement	+	+
Reporting Notes	+	+	–	+	+	–	Notes	+	+
Report on the Use of Targeted Financing	–	–	–	+	+	–			
							Statement of financial position at the beginning of the preceding comparative period	+	–

Source: the study and analysis of legal acts [1, 3, 5].

In accordance with IFAS 1 [5], annual financial statements may also include a statement of financial position at the beginning of the preceding comparative period when an entity applies an accounting policy retrospectively or makes a retrospective restatement of items in its financial statements, or when it reclassifies items in its financial statements.

Financial statements may also include an audit report if, in accordance with the legislation, the entity is subject to mandatory audit.

Table 2 below compares the principles of accounting and financial statements according to the Belarusian and the fundamental requirements of IFRS.

Table 2 –Principles of Accounting and Financial Statements

Law of the Republic of Belarus No. 57-3	IFAS 1
1	2
The principle of business continuity means that information about assets, liabilities, equity, income, expenses of an entity is formed in accounting and financial statements, depending on the intention of the entity to continue or terminate its business in the future	Business Continuity. "An entity must prepare financial statements on the basis of the assumption of continuity of business, unless the management either intends to liquidate this entity or cease its commercial activities, or has no real alternative but to do so."
Isolation Principle	–
The principle of accrual means that business transactions are reflected in the accounting and financial statements in the reporting period in which they are committed, regardless of the date of settlement	Accounting by accrual method. An entity must prepare its financial statements based on accrual accounting, with the exception of information on cash flows
Principle of conformity of incomes and expenses means that expenses are reflected in accounting and statements in the accounting period in which the incomes connected with them (if any) are recognized	"In the normal course of business, an entity carries out transactions that do not generate revenue, but they are associated with the main revenue generating activity of the entity. The entity presents in the net amount of revenues the results both of such transactions and related costs arising from one and the same transaction…"
Note: Thus, we can judge that there is a requirement in IFRS that is similar to the principle of incomes and expenses conformity.	
Principle of truthfulness means that the assets, liabilities, equity, income, expenses of an entity are reflected in accounting and statements under the conditions of recognizing them as such ...	Reliability. "Financial statements must veraciously represent the financial position, financial results and cash flows of an entity. The credible presentation requires a truthful reflection of the consequences of carried out transactions, other actions and conditions in accordance with definitions and criteria for recognizing assets, liabilities, income and expenses."
Principle of the predominance of economic content	–
Principle of prudence	–
Principle of neutrality	–
Note: in international standards there is no indication that entities should avoid overstating their assets and income as well as underreporting liabilities and expenses. It is not stated directly that there is no orientation of the information contained in the reporting to certain users, although this may be stipulated by the requirements of materiality and truthfulness	
Principle of completeness means that an entity reports all information that can influence users' decisions regarding the financial situation of the entity	Materiality: "omissions or distortions of items are considered essential if they are alone or in the aggregate affect the economic decisions taken by users on the basis of the financial statements.

Continued

<table>
<tr><th>1</th><th>2</th></tr>
<tr><td colspan="2">Note: i.e. the demand for "completeness of information" by the Belarusian legislation and the requirements of IAS to avoid significant omissions and distortions of items are identical</td></tr>
<tr><td>Principle of clarity</td><td rowspan="3">In order to meet the requirement of reliability of the information reported in the IFRS, it is required to present relevant, reliable, comparable and understandable information [4, p. 17]</td></tr>
<tr><td>Principle of comparability</td></tr>
<tr><td>Principle of appropriateness</td></tr>
<tr><td colspan="2">Note: since the Belarusian legislation establishes that accounting reporting should be based on the principles of intelligibility, relevance and comparability, and international standards require relevant, comparable and understandable information, in the final result, we can talk about the identity of these principles and requirements (in the Belarusian legislation and IFRS, respectively).
Also, the requirement of information reliability is adequate to the principle of truthfulness described in Law No. 57-3.</td></tr>
</table>

Source: the study and analysis of legal acts [2, 5].

To begin, it is necessary to determine the structure of the group and for this, the analysis of the data of the parent company and its subsidiaries should be carried out on account 06 "Financial Investments".

Depending on the size and type of investment, the method of consolidation is determined, as shown in the Figure 1 below.

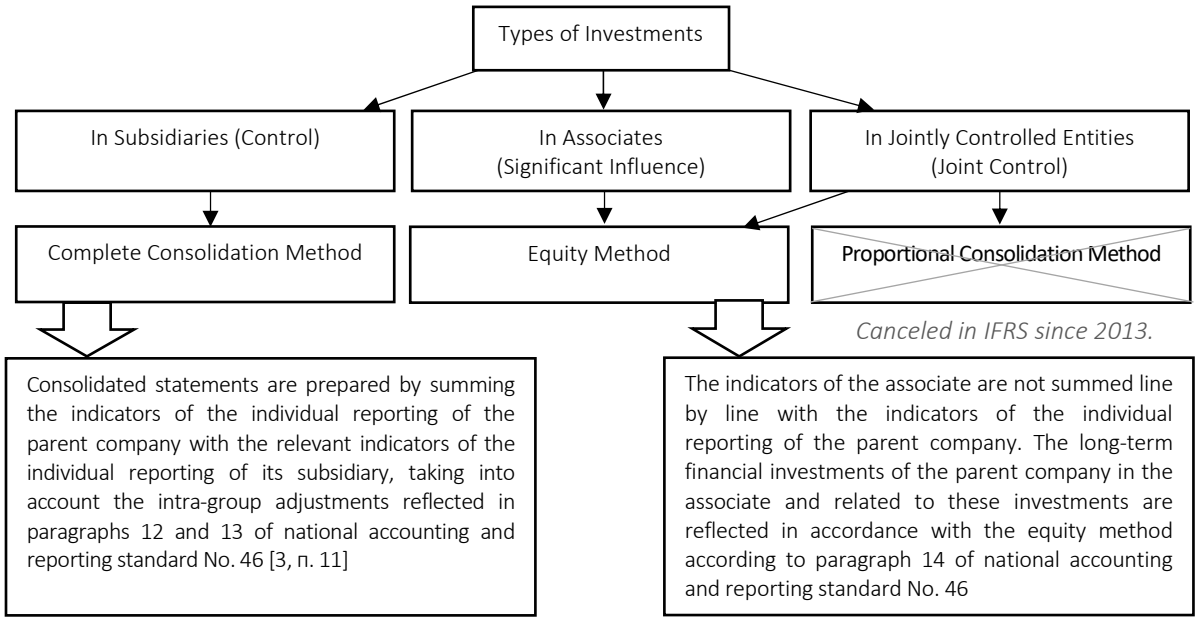

Fig. 1. Determination of Consolidation Method

Source: the study and analysis of legal acts [2–4, 6, 7].

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Economics

UDC 332.146.2

BENCHMARKING ON THE BASIS OF SOCIAL PROGRESS INDEX AS A TOOL OF DESIGNING THE STRATEGY OF SUSTAINABLE DEVELOPMENT

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The article summarizes the theoretical basis of sustainable development goals and the tool of benchmarking the progress in their implementation called Social Progress Index.

It is absolutely clear, that any person in the world would like to live in prosperity, but not everyone has such an opportunity. Quality of life in different parts of the world and often within one country differs a lot. This causes strong tension in the society, intensive migration, xenophobe (starting from discrimination and finishing with extremism), leads to conflicts of different forms (starting from political confrontation and finishing with armed clashes).

So there is a question of what is the reason of such a contrast difference in life conditions and nations' outlook despite the fact that all the citizens of all the countries want the same – to live in prosperity. Is this possible to overcome these problems and provide the prosperity for all?

Today's position of the world community says, that finding the solutions for mentioned problems is the priority for the world development till 2030, which is proved with 17 Sustainable Development Goals (SDGs), confirmed on United Nations Conference on Sustainable Development in Rio de Janeiro in 2012. The SDGs coincided with another historic agreement reached in 2015 at the COP21 Paris Climate Conference. Together with the Sendai Framework for Disaster Risk Reduction, signed in Japan in March 2015, these agreements provide a set of common standards and achievable targets to reduce carbon emissions, manage the risks of climate change and natural disasters, and to build back better after a crisis.

Today 17 SDGs include [1]:

1. No Poverty.
2. Zero Hunger.
3. Good Health and Well-Being for people.
4. Quality Education.
5. Gender Equality.
6. Clean Water and Sanitation.
7. Affordable and Clean Energy.
8. Decent Work and Economic Growth.
9. Industry, Innovation and Infrastructure.
10. Reduced Inequalities.
11. Sustainable Cities and Communities.
12. Responsible Consumption and Production.
13. Climate Change.
14. Life Below Water.
15. Life on Land.
16. Peace, Justice and Strong Institutions.
17. Partnerships for the Goals.

The goals are interconnected – often the key to success on one will involve tackling issues more commonly associated with another. They are relevant for the world in general, but not for every particular country because different countries are on the different level of development and they face different problems. This means that every country should have its own plan of development, which however must be concerned with the global plan and its priorities due to the fact that today's world is a united system from economic, informational and ecological points of view.

At the same time, a purely economic approach to the development with the principle «the richer means the happier» does not guarantee the prosperity because it may lead to different negative consequences for the quality of life, for example to obesity, environmental pollution, increasing risk of cancer and so on. In addition, very often the wealth received is distributed unevenly, which leads to a number of negative social consequences.

This suggests that the priority in global scale should not be the economic growth itself. Humanity should strive to address a range of challenges, such as the 17 SDGs. But there is a question then: how to define the problems of every particular country providing the opportunity to compare the data and evaluate the results globally? How to track the progress and what indicators should be used if economic indicators do not give the understanding of all the problems?

Social progress index can be the answer to these questions. Social Progress Imperative – the organization, which designed Social Progress Index (SPI), – defines social progress as the capacity of a society to meet the basic human needs of its citizens, establish the building blocks that allow citizens and communities to enhance and sustain the quality of their lives, and create the conditions for all individuals to reach their full potential. Improving quality of life is a complex and multilayered endeavor, and past efforts to measure progress simply haven't created a sufficiently nuanced picture of what a healthy society looks like [2].

Social Progress Index (SPI) measures 50 indicators of social and environmental outcomes to create a clearer picture of what life is really like for everyday people. These indicators are divided across three broad dimensions of social progress: Basic Human Needs, Foundations of Wellbeing, and Opportunity. Within each dimension, there are four components that further divide the indicators into thematic categories (see figure 1). Diverse selection of indicators allows for granular analysis of the specific underpinnings of social progress in each country, while the broad categories of the Index framework help to better understand global and regional trends.

Our world average SPI identifies which aspects of social progress are most and least advanced. If the world were a country, it would score 64.85 (out of possible 100) on the Social Progress Index, ranking between Indonesia and Botswana. Breaking this average down across dimensions and components of social progress, there is a wide variation in how countries are performing. The world scores 73.80 in Basic Human Needs and 68.69 on the Foundations of Wellbeing dimensions, but just 51.85 on Opportunity. Creating a society with opportunity for all citizens remains an elusive goal that many nations have failed to achieve.

"Beyond GDP" measurements tend to draw from one of four methodological approaches: the subjective approach, which uses measures such as happiness and life satisfaction; composite indices such as the Human Development Index or OECD Better Life Index; dashboards that present unique, non-aggregated indicators; and the accounting and monetary approach that adjusts economic measures for performance on social outcomes. Each of these approaches has particular advantages and disadvantages (and some prior approaches combine these approaches). However, each approach either amends the measurement of GDP itself, includes components additional to GDP, or develops alternative measures (such as subjective well-being measures) that reflect both economic and social progress. None distinctly measures social progress on its own.

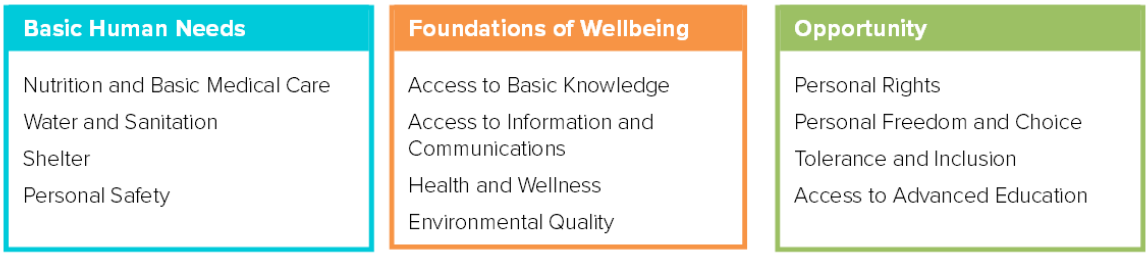

Fig. 1. Dimensions of Social Progress Index

So it means that SPI is tightly connected with SDGs. In case of correct evaluation of SPI the stakeholders – leaders and change-makers from business, government, and civil society – are provided with the data they need to understand where their actions will have the greatest impact, they gain clear picture of weaknesses of society and the most important directions for actions.

This is relevant for Republic of Belarus as well. There is no definite list of prioritized sustainable development goals in the country. The process of formation of main directions of sustainable development goals is still continuing. At the same time Social Progress Imperative has defined SPI for Belarus. This means that there is an opportunity to evaluate social progress and on the basis of this evaluation define the most important areas for actions.

In 2017 on the global scale of SPI Belarus was ranked 65 of 128 countries in the world with the score 67.80 (the scorecard is given on the picture 2). Simultaneously Belarus was ranked 49 of 128 countries in the world by GDP per capita with the score $16 662. To understand these numbers it is better to compare them with other countries. Russia which has similar historical background and culture, but different level of GDP per capita, which is much more high – $23 895 (due to a lot of natural resources), in 2017 was ranked lower by the level of SPI – 67 of 128 countries in the world with the score 67.17. But there is the opposite example: Costa Rica which was 55th by the level of GDP per capita equal $14 647 in 2017 was ranked 28 of 128 countries in the world with the score 81.03 by the level of SPI.

Such a difference proves the fact, that GDP is not a guarantee of success. Russia has a huge wealth comparing it with Costa Rica, but this wealth is not used as a tool for improving lives of people. Social success of Costa Rica gives a chance to Belarus to be a better place for life having the current level of GDP in case of correct using of wealth and real changes in according to problem places defined in the score card of SPI.

Of course, every country has its own peculiarities of social and economic development and culture, but good practices and useful experience can be adapted to the circumstances of the specific region and SPI can help with this through the benchmarking. Benchmarking is a process of comparing one's business processes and performance metrics to industry bests and best practices from other companies [3], but absolutely the same principle can be used on the level of society development.

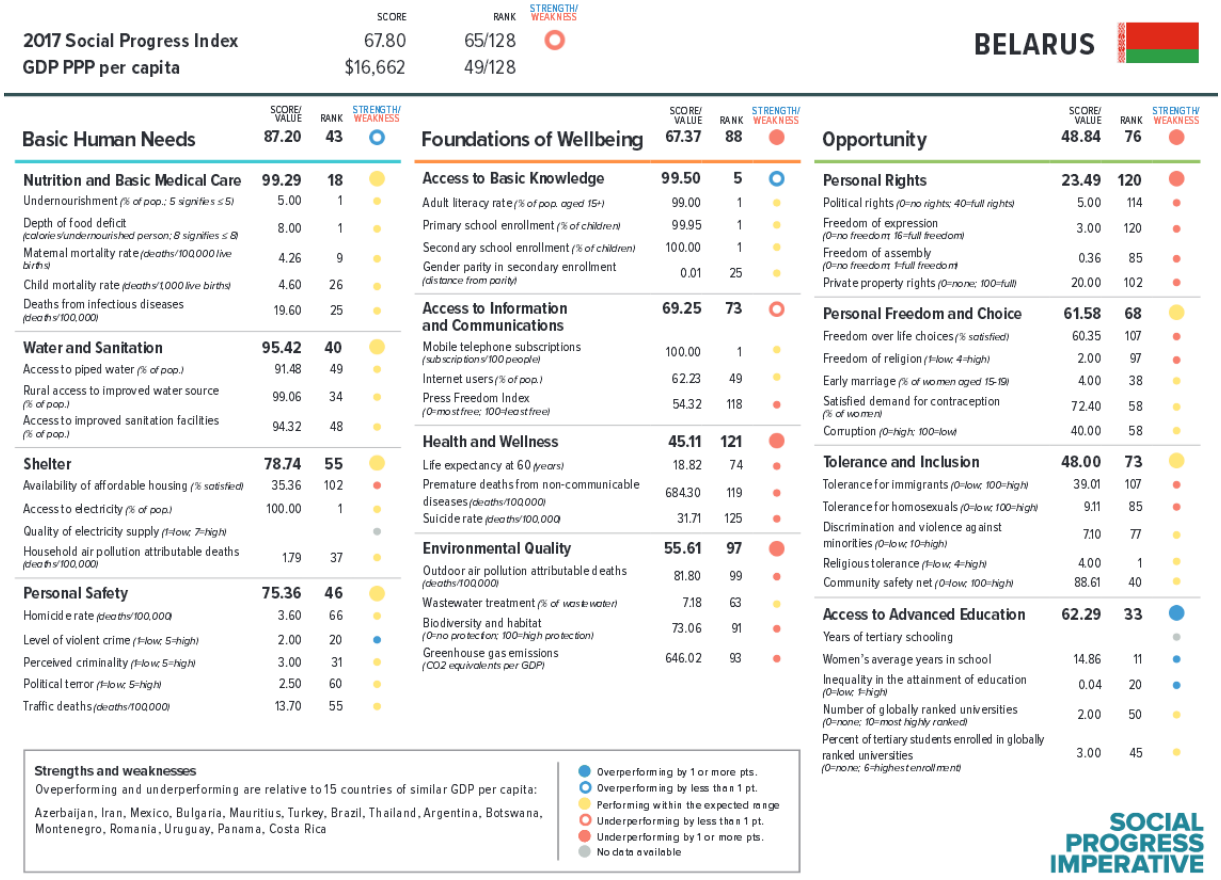

Fig. 2. Social Progress Index 2017: Belarus Scorecard

But this work will be successful only if the system of planning and further implementation is correct and adequate. This issue is directly connected with strategic planning. The development of society should be subject to a common goal – to create quality conditions for people's lives, not only to increase the income. So considering the structure of SPI, authorities in Belarus should pay special attention to the next components of social progress:

– Access to Information and Communication;
– Health and Wellness;

– Environmental Quality;
– Personal Rights.

These components must be key areas for actions in the strategy, which therefore must be developed in according to the structure of governance in the country: for local, regional and national levels as a holistic plan of development. The priority should be given to the local level due to the most essential influence on life conditions of people. Responsible officers must be appointed to make decisions, control the process of implementation and asses the progress as well as financial support must be provided both from national budget and international founds (UNDP, EaP of EU, etc.)

In this case this work will lead to solution of real problems of the society in Belarus. Social progress index gives us clear vision of the problems and benchmarks for solutions. Anyway, political initiative is in the root of real actions, there are many successful examples of development in the world and there is a strong international movement in order to make the world a better place for life.

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Economics

UDC 65.011.42

LOGISTICS OPTIMIZATION OF THE TRANSPORT DEPARTAMENT WORKING OF INDUSTRIAL ENTERPRISE

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In the article the main problems of the transport department functioning are considered on the example of the enterprise of the building materials industry.

According to the logistic concept of the production organization, its main principles are the following:

– refusal to keep a large number of stocks;
– the maximum reduction in the time required to perform basic and transport-warehouse operations;
– avoidance of downtime of equipment;
– obligatory and immediate removal of rejects;
– removal of non-rational intra-factory transportations, optimization of transport movement within the enterprise;
– turn suppliers in partners in a macrologistic system.

The traditional concept of the production organization corresponds to the seller's market, while the logistics concept is to the buyer's market [1].

The main goal set by the transport department of an industrial enterprise is the timely and uninterrupted giving of vehicles for the movement of goods during the production process.

The production of other non-metallic mineral products in 2016 amounted to 8.8% of the total industrial production in Belarus. In 2015 in Belarus, in this branch of industry, products worth 31.59 billion rubles were produced.

One of the main drivers of growth in the building materials industry in Belarus is housing construction. An additional source of growth for the branch of industry is exports. However, at the enterprises, inefficient approaches to the promotion of products persist. This inhibits exports in the face of increased competition in foreign markets.

By the end of 2015, the volume of production of other non-metallic mineral products decreased by 18% against the level of the previous year against the background of a general decline in industrial production in Belarus in 2015.

The branch of production of building materials can be conditionally represented by two levels:

– Production of basic building materials (cement, gypsum, lime, rubble);
– Production of derivative building materials (brick, slate, glass, reinforced concrete products, cellular concrete blocks, ceramic tiles, dry building mixtures, etc.).

In the period from 2005 to 2010, the branch of production of prefabricated reinforced concrete products and structures in Belarus developed steadily and dynamically. During these five years, the output of concrete products has doubled and reached almost 4 million m^3.

But as the production of reinforced concrete products is very sensitive to the rapidly declining housing construction volumes since 2011, the volume of housing construction in the country for the last 3 years have fallen to the level of 2008 and are estimated at about 2.73 million m^3 in 2015. One third of the reinforced concrete products produced in Belarus are panels and structures for large-panel housing construction. A significant proportion (17%) in the structure of production of reinforced concrete products is occupied by wall panels. At the same time, 40% of the produced reinforced concrete products are other products and structures (Table 1).

The main factor in the growth of the production of construction materials is the state policy aimed at stimulating investment in fixed assets, and in particular, in construction. However, in connection with the revision of the state policy to support the construction sector (reduction in the issuance of loans to state programs) in 2013 there was a trend of slowing the growth rate of production of basic building materials. At the end of 2014, the growth rate was minus 3.6% [2].

The vehicles of Novopolotskzhelezobeton (a branch of Krichevtsementnoshifer) are designed to transport raw materials, materials, semi-finished products, finished products, waste and other goods on the territory of

the enterprise and beyond. Most of the transportation is just the movement of goods inside the enterprise between its shops, warehouses and landfills.

Table 1 – The main indicators of the industry by type of economic activity "Production of other non-metallic mineral products"

	2011	2012	2013	2014	2015
Number of organizations, pieces	935	938	979	962	893
Number of organizations by forms of ownership, as a percentage of the total:	100	100	100	100	100
State:	3,7	2,8	2,1	1,7	1,6
republican	1,1	0,6	0,4	0,3	0,3
communal	2,7	2,1	1,7	1,4	1,3
Private:	93,5	94,3	95,3	95,7	95,9
with a share of state	9,0	9,6	9,0	9,0	8,7
Foreign	2,8	2,9	2,6	2,6	2,5
The volume of industrial production, billion rubles	14 699	27 205	33 415	37 426	31 590
Average number of employees, thousand people	70,7	66,8	65,5	62,7	56,0
Average monthly salary of workers, thousand rubles	1 967,9	3 931,0	5 562,6	6 426,2	6 322,4
Average monthly salary of workers in the industry as a whole, thousand rubles	2 093,4	4 056,5	5 483,2	6 372,5	6 883,7
Profit from sales, million rubles	125,5	166,71	174,46	118,97	62,82
Profitability of sales,%	9,0	6,9	6,1	4,4	2,6

It was decided to establish the classification of hoisting and transport means for the enterprises for manufacture of building materials.

There is a need to share vehicles and mechanisms into 2 main groups (Fig. 1):

1. The lifting and conveying machinery (lifting and transport means).
2. Vehicles.

A common mistake is to identify vehicles and transporting machines. In this connection it is necessary to draw attention to the fact that the vehicles are mainly used for cargo delivery to the construction or production site, and often – over long distances, and transporting the machine perform the movement of goods within the construction or production site at short distances [3].

According to the principle of action "The lifting and conveying machinery" is proposed to be divided into machines and mechanisms:

- of continuous operation;
- of periodic action;
- combined.

In connection with the specifics of each mode of transport, the group "Transportation" was divided into 3 subgroups:

1. Rolling road transport;
2. The rolling stock of railway transport;
3. Rolling waterway.

When organizing the work of the transport department, the following issues are solved at the enterprise:

- the turnover of goods and goods traffic is defined;
- the organization of cargo transportation, the choice of the type of transport and the calculation of the need for transport;
- the organization of loading and unloading operations [4].

It was carried out the analysis of cargo flows to the enterprises of Novopolotskzhelezobeton. Reinforced concrete products and concrete for their manufacture are the main products produced in the enterprise.

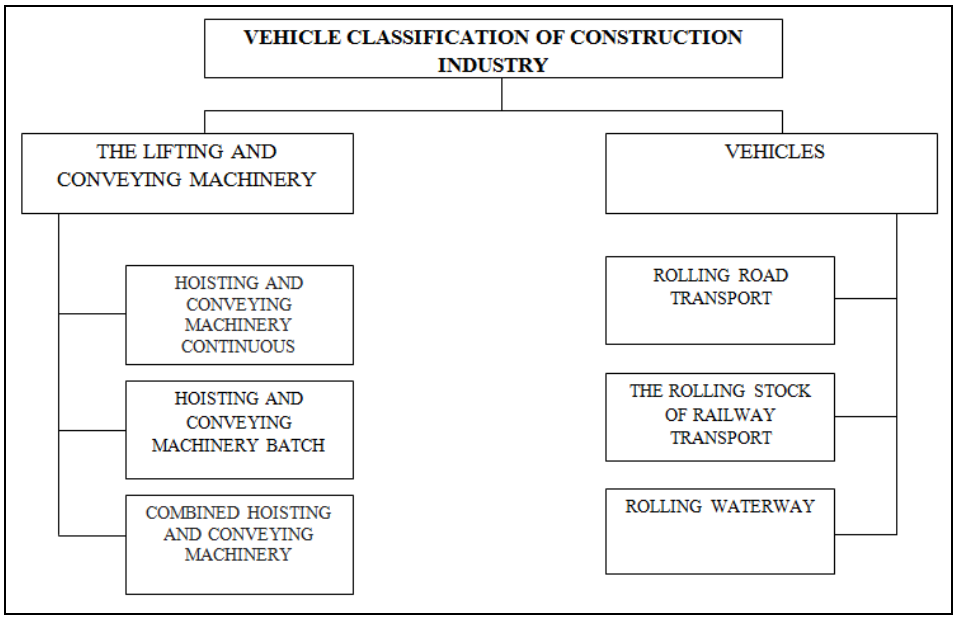

Fig. 1. Vehicle classification of construction industry

It were identified the following problems:

1. Inefficient use of mileage and carrying capacity.
– the work on the organization of ring routes is not carried out;
– the work on the organization of the back loading of the car is not carried out.
2. Ineffective distribution of transportation (orders) between cars.
3. Uneven distribution of traffic by day.

The diagram in figure 2 shows that the volume of traffic decreases sharply on weekends. Also, you can see a general trend of reducing the number of traffic since the beginning of the month.

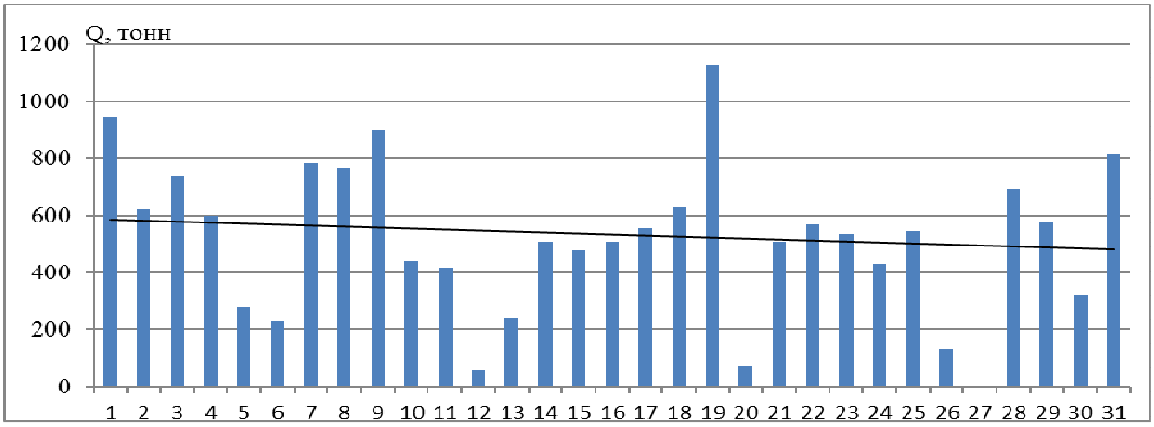

Fig. 2. The volume of transportation for august 2017

4. Lack of application of modern technologies and special programs.
5. Use of obsolete vehicles with a high resource intensity.

Transport departments of industrial, construction and other enterprises belong to the units that serve the main production. They are not connected technologically with other units, that is why the separation of transport departments and sites and the creation of independent (legally and economically) transport enterprises on their basis does not cause any difficulties in organizing production at the main enterprise. Moreover, the main enterprise gets rid of functions that are not characteristic of own purpose, and it can satisfy the transportation needs by agreement with the transport company that has separated from it [5].

Based on the results of the analysis, it can be concluded that optimization of the work of the transport department can be effective, but the results may not be as significant as when the department is assigned to a separately functioning organization.

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UDC 330.352.3:656.025.4

PROBLEMS AND PROSPECTS OF INCREASING COMPETITIVENESS OF THE LOGISTIC SYSTEM OF THE REPUBLIC OF BELARUS ON THE INNOVATIVE BASIS

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The structure of the logistic system is touched upon in the article, the role of the innovations which make it possible to increase the system's competitiveness in the Republic of Belarus is determined. Recommendations are given to Belarusian enterprises about how to increase competitiveness on the basis of the innovation development of the logistic system.

The favorable geographical position of the Republic of Belarus can be used in accordance with international agreements between Europe and Asia in international trade between countries. This factor creates certain competitive advantages in the context. To achieve these advantages is possible through the development of the logistics system.

Transformation of the Belarusian economy in the direction of the market model of managing has caused institutional reforms. It is dictated by the requirement of creation of competitive production which in its turn assumes modern competitive environment formation based on innovative work and intellectual capital.

According to its essence, logistics system (hereafter – LS) is one of the most complicated social and economic systems made by man. The complexity is connected with the fact that the LS has both economic and social essences as it consists of social and economic units (subsystem elements), which are interconnected in a common management process of material and attendant streams, operating logistic functions, and are connected with external environment.

In the project of the Concept of the State LS Development Programme of the Republic of Belarus for 2016 – 2020 years the logistics system is regarded as a complex, completed, structured economic system, which consists of transport (transport, wholesale and logistic centers), interconnected objects on the territory of the Republic of Belarus and organizations whith transport, storage, forwarding, information, financial, certified, insurance and production structures, interacting through the information exchange for the effective management of goods movement in the Republic of Belarus [2].

In the project of the Law of the Republic of Belarus «About the logistic activities» of 2012 LS is represented as a complex, dynamic control system, which aim is to carry out good circulation for timely provision of the economy and the population's needs with goods and products of industrial purpose at the minimal cost [2].

Summarizing the material which is presented in logistics sources, it is possible to distinguish main subsystems of LS: - purchase, - production facilities; - resources; - transport; - production; - distribution; - marketing; - information; - personnel; - service; - finance.

However, the given characteristic of subsystems makes it possible to assert that there are parts in each of them which form and develop the system, as a whole. These determinatives are formed according to the aims of separate system functioning, which can be achieved during the solution of the system tasks. In general, the goal is the achievement of the separate subsystem, functioning due to the solution of particular objectives and creating economic and social conditions for LS formation and development.

For the development of the LS the implementation of innovations that are aimed at the effective product distribution management in each section of the logistical chain is needed. It will provide the improvement of the streaming processes for effectiveness and competitiveness of enterprises.

The implementation of innovations as a means of achieving this aim is complicated because logistics is a relatively young science, in comparison, for example, with marketing. Many questions relating to its conceptual apparatus and terminology are very changeable and are constantly supplemented with new content.

To determine the meaning of innovation in LS in general, it is necessary to find in its definition those processes which allow to develop the system due to implementation of innovations in each subsystem.

According to LS subsystem division into structural elements and processes the equation of this approach is logical with such a classified feature of the division into kinds as an innovation type which is connected with an innovative enterprise: the innovation division into food, resource and process [3]. In that case, it is possible to say that four of the five subsystems-processes of LS (the process innovations on the stage of purchase,

distribution, marketing and service) have a prior meaning. At the same time the «production» subsystems have production innovations.

The resource innovations are a priority for «building blocks» of LS subsystems. Their implementation will allow to increase the rationality of resource used and to achieve the aim of each LS subsystem development which are concluded in:

- innovations in staffing strategy of the enterprise (subsystem "personnel");
- innovations in the efficient use of financial resources (subsystem "finance");
- innovations in LS information support (subsystem "information");
- innovations in increasing the capacity of LS transport support (subsystem "transport");
- innovations in goods and resources storage (subsystem "storage facilities");
- innovations in resource optimization (subsystem "resources").

At the same time, the innovations create economic conditions coming out of the tasks that must be solved in each of LS subsystems.

This approach allows to solve the problems in each of LS subsystems through the implementation of innovations. Thus, the potential possibilities which LS has for its development, are increasing. The tasks are also being solved in each subsystem by excluding «narrow spaces» in LS. It allows to create the real assumptions for its innovation development.

The solution of these tasks in complex will allow to increase competitiveness of domestic enterprises both on internal and on external markets, and it, in return, will allow to increase export volumes and receipts of currency earnings in the State currency fund for the solution of such tasks as support of the national monetary unit rate, repayment of an external debt.

In this way, ensuring the competitive advantages of the Republic of Belarus at the present stage can only be achieved through:

1. Transition of management of an economy from an industrial to a postindustrial model on the basis of knowledge economy - development of branches of the fifth technological order.

2. Development of industries with high specific gravity of non-material, human capital in information and communication technologies, education, science and intellectual services (consulting).

3. Scientific and technological progress.

4. Improving the management of the logistics system on the level of the country and in the regions.

5. Formation of a modern competitive environment based on innovative labor and intellectual capital for the development of export-oriented and import-substituting production.

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Economics

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QUALITY OF LIFE IN THE GLOBAL ECONOMY

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The quality of life of the population is determined by the life potentials of the society, its social groups, individual citizens and the conformity of the characteristics of the processes, means, conditions and results of their livelihoods to socially-positive needs, values and goals.

The population is seen as a consumer of goods and services created in the country, and the quality of life as an indicator of its provision with infrastructure services and a measure of satisfaction of spiritual, intellectual and aesthetic needs. The results of the research showed the existence of problems in ensuring the quality of life of the population of various states, including the Republic of Belarus. Focusing on foreign experience of advanced market countries, as well as taking into account the peculiarities of Belarus' economic development, activities aimed at improving the quality of life were proposed.

The term "quality of life" appeared in the mid-fifties, when it became obvious that the category of "standard of living" comprehensive does not reflect the well-being of the population. The study of the problem of the quality of life began in the late 60s of the twentieth century, when a transition to a post-industrial stage of the development of society began in the highly developed countries of the West, which led to an interest in the humanitarian content of economic progress. In the beginning, the quality of life was mainly associated with issues of environmental protection, health and urban renewal. But soon, this problem began to be viewed from the angle of ensuring the viability of society and treated as an integral part of a certain futurological ideal that is to be reached by humanity in the near future - the transition to the next stage of civilization development with new relations between people, in which not money comes to the fore, but the harmony of social and cultural values [1].

The quality of life is the condition of human existence: the provision of material goods (food, clothing, housing), security, access to medical care, the opportunity for education and development of abilities, the state of the environment, social relations in society, including freedom of expression and the influence of citizens on political decisions [2].

The effectiveness of the social policy of the state and, ultimately, the world rating of the country depends on the quality of life. In this regard, the topic of the study is very relevant.

The quality of life of the population is the degree of satisfaction of the material, spiritual and social needs of man [3].

The relevance of the topic is due to the fact that the solution of social problems in society guarantees its political stability and economic efficiency

The work of many economists has been devoted to studying the issues of improving the quality of life. A significant role in the development of their methodological foundations was played by the works of K. Marx. Investigations in this field were also carried out by S.L. Bru, J.M. Keynes, F. Kotler, A. Maslow, S. Fisher, as well as contemporary authors – N.A. Lazarevich, TN. Isaeva, L.A. Sosnovsky, V.A. Zhmailik, B.N. Genkin et al. At the present time F. Andruz, F. Converse, J.L. Milbraith, McKennel, A. Mycelos, W. Rogers, S. Wright and others are engaged in the study of the quality of life.

To date, there is no single concept of the quality of life, and the concept of this category is different both in different countries and among different authors. Differences in the definition of quality of life are observed and applied to each category of the population. For some, this is the degree of satisfaction of needs, for others - the category by which the essential circumstances of the life of the population are characterized. For the third - the parameters and living conditions of people. Everyone is right, but even the sum of these answers does not provide an exhaustive definition of the quality of life.

To measure the quality of life in the world, indicators are used that include a variety of socio-economic aspects. The most significant of them are: welfare, social protection of the population, population and health, education, legal protection, quality of products and services, culture, housing conditions and ecological situation and etc [4].

The welfare of the society is estimated, first of all, by the level of the gross domestic product of GDP.

Social policy is the activity of the state, other economic entities aimed at providing conditions for satisfying the needs and improving the welfare of the population, creating a system of social guarantees. The health of the population is one of the most important indicators of the social policy of the state [5].

Education - a set of systematized skills, skills and knowledge acquired by a person in the process of training in special institutions or self-gaining knowledge [6].

Housing conditions are one of the basic values that provide citizens with a sense of economic stability and security, and also stimulate them to productive labor.

The quality of the environment (or the quality of the ecological niche), accumulating data on airspace, water pollution, soil quality, biodiversity level of the territory, etc.

An analysis of the trends in the quality of life of the population makes it possible to judge how effective the socio-economic policies of states are, and to what extent society copes with the tasks set. Studying the dynamics and quality of life of the population, its forecasting is extremely important for the sustainable, balanced and progressive development of society as a whole.

In the world economy there is an index that allows measuring and comparing the level of welfare in different countries, as well as a combined indicator that measures the achievements of the countries of the world and individual regions in terms of their ability to provide their residents with a prosperous life (table 1). The quality of life index measures the results of subjective satisfaction with the lives of citizens of different countries of the world and correlates them with objective indicators of the social and economic well-being of the inhabitants of these countries. The index is compiled on the basis of a statistical analysis of nine key indicators that reflect different aspects of the quality of life of the population:

1. Health.
2. Family life.
3. Public life.
4. Material well-being.
5. Political stability and security.
6. Climate and geography.
7. Employment level.
8. Political and civil liberties.
9. Gender equality.

For each group of indicators, the countries surveyed are scored in scores ranging from 1 to 10 (using thousandths). The more points, the more highly assessed the country is by this criterion. With the final calculation of the Index, the indicators are summarized in accordance with a given scale of weighing, which is determined by the research team after consulting with the experts interviewed in the study [7].

Table 1 – The Quality of Life Index in 2016

Rating	A country	Index
1.	Ireland	8,333
2.	Switzerland	8,068
3.	Norway	8,051
14.	Canada	7,599
26.	Germany	7,048
60.	China	6,083
66.	Latvia	6,008
86.	Azerbaijan	5,377
100.	Belarus	4,978
105.	Russia	4,796
108.	Nigeria	4,505
111.	Zimbabwe	3,892

In the list of modern priorities of states, social policy is placed on one of the first places for a number of reasons.

The first reason is that the population of any country is less concerned with the problems of macroeconomics, the population is more important to know where to work, how to be treated, how to teach children, what kind of pension will be. Therefore, social policy issues are crucial in the economic programs of the parties of any state. The second reason is that the expanded reproduction of the labor force necessary for the 21st century can be ensured only with a sufficiently high standard of living of the population, access to quality education and medical care. The third reason is the general process of humanization of society in the last decades, when a person became his main asset and value [8].

As shown by the analysis, in general, the dynamics of indicators in the country, characterizing the quality of life of the population, is positive and indicates a consistent and balanced increase.

But a number of problems were identified in the implementation of the effective social policy of the state and, as a consequence, improving the quality of life of the population of the Republic of Belarus. The main of them are: a non-optimal governance structure; the underdeveloped institutions of market self-regulation; low labor productivity and high production costs; ineffective system of distribution of financial resources in the economy; low return on investment in fixed assets; insufficient volume of attracting foreign direct investment due to imperfections in legislation and the right to apply in the investment relations that form the investment climate; Crediting of business entities due to a shortage of own working capital; high commodity and geographical concentration of exports, gradual loss of export markets; the growth of external debt as a result of the decrease in foreign exchange earnings in the country; a low share of the contribution of organizations of the private sector of the economy, small and medium-sized businesses in GDP.

To address the identified problems of the social policy of the Republic of Belarus, it is possible to suggest the most important ways, in the author's opinion, of improving the quality of life of the population.

1) Increase of real money incomes of the population should be carried out by creation of conditions for strengthening of labor motivation of workers through establishment of stable and guaranteed wages, assistance to development of small business.

2) Improvement of the policy of labor remuneration, labor relations and employment of the population of the Republic of Belarus.

3) Increasing the efficiency of the use of labor resources and building human resources in line with the real needs of production, the gradual elimination of forced part-time employment in the workplace, updating and improving the structure of jobs.

4) Providing a higher standard of living for pensioners.

5) Ensuring the needs of the national economy and the population in a wide range of high-quality services at affordable prices with priority development of priority and new types.

6) Bringing the education system in line with the modern needs of the individual, society and the state, improving the quality of training highly qualified specialists capable of ensuring a transition to an innovative way of economic development.

7) Preservation and improvement of public health on the basis of increasing accessibility and quality of medical care for the general population.

8) Preservation of the historical and cultural heritage and further development of the national culture, creation of conditions for the all-round development of the individual, the growth of her creative initiative, spiritual and aesthetic needs, the transformation of culture into the main driving force of a new postindustrial society.

These events will contribute to improving the life of the population and ultimately will raise the Republic of Belarus's ranking on the world stage as a young promising state with a developed social sphere.

Economic development is not an end in itself, but a means of improving life. Currently, economic development, as an economic category, is being considered more widely - within the framework of sustainable economic development, which includes economic, environmental and social aspects. Social aspects of society in relation to the country's economy are of secondary importance. However, it is the social aspects of the life of society that are the main goal of the country's economic development, the main goal of economic transformations, the main criterion of their effectiveness [9].

The quality of life of the population is the degree of satisfaction of the material, spiritual and social needs of man. The person suffers from poor quality and is satisfied with the high quality of life, regardless of the scope in work, in business and in personal life. Therefore, quality is necessary for a person constantly. The person

himself is committed to improving the quality of life - he is educated, works at work, strives to advance the career ladder, and makes every effort to achieve recognition in society.

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Economics

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THE IMPACT OF GLOBALIZATION TO MODERN MANAGEMENT

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Need of understanding of essence of globalization process for the adoption of strategic decisions and effective management of the entity is shown in article. The new requirements to the entities based on the internal and external revaluation of the values connected with globalization are provided. A number of the fundamental questions facing managers of the entities and connected with global rivalry is considered. Requirements to an enterprise management system for effective work of heads and staff of the entity and the successful competition in the international market are determined.

Nowadays we can see the international integration of economies, law, cultures and information space. Globalization isn't just about economics. It has an impact on all main public spheres – politics, ideology and culture.

For the first time the concept of globalization was used in article in 'Harold business of the review' T. Levitte for designation of merge of the markets of the separate goods made by multinational corporation. This concept of the book K. Ome (Harvard) was widely operated. However as one of their main conceptual creations the term 'globalization' was used only in 1981 by the American sociologist J. McLean, in 1985 – R. Robertson took out it in the name of the article in which he gave detailed interpretation [1].

The French political scientist F. Moro-Defarzh determines 'globalization' as a process which 'covers actions' all international actors – the states, the organizations, the entities, individuals, – 'who are forced to argue at the global level, that is at the level of all planet' [2].

From the point of view of the domestic scientist A.B. Weber, globalization means 'retraction of the whole world in the open system of financial and economic, social and political and cultural ties on the basis of the latest communication and information technologies. It is an objective process which is prepared by all course of prior development and now entered qualitatively new stage' [3].

There are very different opinions about globalization. While it has both positive and negative effects, one can't but agree that globalization is an objective fact and it can't be avoided.

Today it is impossible to be an effective manager, make strategic decisions and provide rational management if you don't understand the nature of globalization. A manager of the twenty-first century needs a broader international experience.

Economic globalization directly influences the business. The modern trend in this sphere is a complex interaction of business cultures and training of specialists for international companies. Companies need to pay attention to the approaches, values, expectations, as well as perception and typical behavior of employees from different cultures. The success of a company on the global market depends on the effective management system, ability to resolve conflicts among employees of different nationalities and cultural traditions.

Globalization means that boundaries between cultures gradually disappear and they adapt to one another. In practice it is not that easy. There are serious challenges connected with peculiarities of law, traditions, customs and even climate.

Because of cultural diversity, managers have to deeply understand ethnic and religious specifics, family values and national subcultures. In the context of different cultures, managers need to study individual behavior in companies all over the world.

A new global manager should think in more global categories. It means that managers should change the way of their thinking. The knowledge of international relations and foreign markets is necessary in a changing global environment. Another important thing is to study not only languages, but also cultures and cultural differences.

Globalization is the result and the reason for development of information and communication technologies. Today the international information market is growing just as fast as IT market. Information is a valuable and expensive product, which must be always updated. Access to information often has strategic importance for solving very different tasks.

Information technology plays such an important role now that it is often described as the fifth factor of production. However, a huge amount of information leads to some problems. The controversy between sources of information makes the information itself controversial. It is hard to make sense of such information. There is a

phenomenon called information noise [4]. It means that large amount of inaccurate information make it hard to take rational decisions. As a result production efficiency goes down. It is difficult not to get information, but to process it.

Globalization gives an opportunity to use benchmarking and it is present in all business processes and management. Almost every business decision is made by using comparison of company's indicators and results with local and global companies.

Today the technologies of information exchange are developing very fast. It changes traditional rules of market game. The global environment of the company is becoming more active and reacting faster. Not only big companies on international market need to adapt to such changes. Small and medium companies also have to consider that stronger business opponents from foreign countries may appear.

Modern companies now deal with shorter life cycle of technologies and products. Global market changes the factors of production and the choice of sale point. Because of foreign competition, there aren't past barriers for entering the market anymore. Intellectual capital gives the biggest competitive advantage and destroys old hierarchy and values.

As a result of new values, there are new requirements for the companies. In general companies need to:

1) make a quality change in the requirements for efficiency and competitive performance. This results from the leading positions of transnational corporations on the global market.
2) learn how to operate on the international market. At least meet the demands of the global market.
3) adapt to quality changes. Learn how to function in always changing conditions.

A growing number of companies want to be on the global market now. They have to find new ways of management and administration. Competitive advantages are gained in tough competition. The global market is highly competitive, it is characterized by innovative products, global technological competition, development of international companies, such as conglomerates, groups of companies, holdings, network and virtual enterprises.

In such conditions companies have to closely follow the development of the market and technology, predict the actions of clients and opponents. Their aim is to develop and implement expensive programs and strategic events using their own funds and external capital. It means that company's competitive performance depends on the ability to generate new product and sell them on the global market. Another important aspect is conditions that are created by the company, as well as local and central state bodies.

Today company's managers have to answer a number of important questions.

1. *Adaptation*. How can a company manage constant changes and learn how to adapt to them?
2. *Structure.* How should be a company organized in order to react to market changes as fast as possible? Which relations with clients and suppliers should be like?
3. *Competence.* Which qualities will managers need in future? Which competencies are important for success of the company in such dynamic environment?
4. Another question is *management style*. How shall business decisions be made, considering that employees have a wide access to a large amount of information?
5. The *influence of information technologies*. What will happen to production, if electronic market and information flows allow buyers and sellers to find each other across the world without any agents?
6. *New methods of work.* What will teamwork be like with the new opportunities of communication and coordination? How will work be evaluated? Will there be fewer large offices and factories? Will more people work at home via computers?
7. IT'S important to mention *innovation.* How can a company constantly create innovations on a competitive market, where only those companies succeed that find and implement new ideas?
8. And finally, *means of success*. Since intellectual capital and human resources play the most important role in company's success, how can traditional accounting tools be adapted to better reflect company's resources, debts and long-term perspectives?

When answering such questions, managers from different parts of the world rely on their national experience, traditions, norms and rules. Only those companies that can adapt to changes, use flexible means of production and distribution, can be competitive on the international market.

However, the main factor of competitive advantage is a team of highly-educated, motivated managers and innovators, who can implement the plans and strategic programs. For effective work of managers and employees, a company should develop an effective management system. Such system should be [6]:

– First: innovative. It means that such system innovates not only products and processes, but also its structures, systems of human resources, supplies, stock control, marketing, and services.

– Second: adaptable. That is to be able to adapt to changes in behavior of employees, wishes of clients, expectations of investors, laws, availability of resources on the global market and strategies of opponents.

– Third: flexible. It should be able to increase and decrease the size of the company, change its actions and strategies, create coalitions, eliminate inefficient or less efficient structures.

– And finally, management system should be efficient, which means that it can remain competitive in the sphere of production, performance, employee satisfaction, as well as client loyalty, quality and availability of service.

In conclusion, we would like to note that educational institutions play an important role in building competencies of a global manager. To achieve better results, it is necessary to include the study of intercultural differences in educational standards and also to develop international educational programs.

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INFLUENCE OF WORLD ECONOMIC AND CREDIT RATINGS ON THE INVESTMENT CLIMATE OF THE REPUBLIC OF BELARUS

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In this article abstract is considered as the situation of the Republic of Belarus in the world economic and credit ratings. Also there are made the conclusions about the dynamic of analyzed indicators and tendencies of the differences of analyzed facts.

The most important characteristics of the economy of any country at the present stage of development are investments. Thus, characterizing the state of the investment climate in the country, we focus on the forecasts made by the world's largest rating agencies.

In Table 1 it is considered the position of the Republic of Belarus in the international economic ratings in 2012-2016.

Table 1 – The position of the Republic of Belarus in international economic ratings

Ratings	Position of Belarus in the rating				
	2012	2013	2014	2015	2016
1. Doing Business	64	63	57	44	37 out of 190 countries
2. Index of Economic Freedom	154	150	153	157	104 out of 180 countries
3. Legatum Prosperity Index	54	58	53	63	98 out of 149 countries
4. Corruption Perceptions Index	123	123	119	107	79 out of 176 countries
5. UN Human Development Index	50	51	52	52	52 out of 188 countries
6. Vision of Humanity Global Peace Index	109	96	92	110	106 out of 163 countries

Source: [1–6].

According to Table 1, it can be seen that by 2016 certain indicators in the international ratings have improved in the Republic of Belarus. However, special attention should be paid to the position of Belarus in the World Bank and Doing Business 2017 rankings, the high value of which means favorable conditions for doing business in the country. And the overall improvement in the position is a very positive sign for foreign investors, which, guided by the report's data, can increase the inflow of foreign direct investment in the future.

In Table 2 there is considered the position of Belarus on the ten key indicators of the 'Doing Business' rating.

Table 2 – Key indicators of the World Bank and International Financial Corporation 'Doing Business'

Indicators	Doing Business			Change 2016 to 2017
	2012	2016	2017	
Registration of property	4	7	5	+2
Connection to the power supply system	175	72	24	+50
Enforcement of contracts	14	28	27	+1
Obtaining construction permits	44	28	25	-3
International trade	152	30	30	0
Registration of enterprises	9	30	31	-1
Protection of minority investors	79	62	42	+20
RESOLVING Insolvency	42	95	69	+26
Taxation	156	95	99	-4
Obtaining loans	98	109	101	+8

Source: [7].

The country's rating grew by six of the indicators indicated in the table. The greatest progress was noted in the category "Connection to the power supply system" (+50 points) due to the simplification of the connection process to the electric networks: the 'one window' principle was introduced when connecting electrical installations to the power grids of Belenergo power supply organizations.

According to the World Bank's assessment, in the Doing Business 2017 report of Belarus, in addition to the reform on the indicator 'Connecting to the electricity system', the following reforms were included:

– 'Registration of property' – it is recognized that the transparency and reliability of administrative procedures in registering property has been increased in Belarus;

– 'Getting a loan' – the credit register in Belarus started to provide a new type of services - credit scoring, in which the scoring model is built on the data of all Belarusian banks, and allows assessing the ability of borrowers to repay the debt;

– 'Protection of minority investors' – strengthened protection of minority shareholders, increased corporate transparency of the company.

It is impossible not to note the achievements of Belarus in improving the 26 positions of the value of the indicator "Resolving Insolvency", which characterizes the time and financial costs, as well as the final outcome of the process of resolving insolvency of enterprises.

Starting from 2012, Belarus has improved its position in the rating of 'Doing Business' for 27 positions. However, the task at the state level in 2012 about entering the top 30 world rating 'Doing Business' has not reached.

The next tool that investors use in the process of buying bonds or making fixed-income investments are credit ratings. Most often, credit ratings are used by investors to help them assess credit risk and compare different issuers and various debt obligations when making investment decisions and managing portfolios. For example, individual investors can use credit ratings in assessing the appropriateness of buying municipal or corporate bonds taking into account their own risk tolerance. For institutional investors, including for mutual funds, pension funds, banks and insurance companies, credit ratings are often a good addition to their own credit analysis of certain debt instruments. In addition, institutional investors can use credit ratings to set credit risk limits and formulate their investment rules [8].

It is worth noting that of the top ten rating agencies in the world, 97% of all ratings are provided by US agencies: «Standard and Poor's», «Moody's» and «Fitch Ratings».

Consider the position of the Republic of Belarus in the credit ratings in Table 3.

Table 3 – Position of the Republic of Belarus in credit ratings

Rating agency	Long-term rating	Short-term rating	Forecast	Date of last evaluation
Standard and Poor's	B	B	Stable	06.10.2017
Fitch Ratings	B-	B	Positive	28.07.2017
Moody's	Caa1	B3	Stable	04.07.2017

Source: [9].

According to the classification of Standard & Poor's, the "B" ratings indicate that the country is vulnerable to unfavorable economic conditions, but at the same time it has the ability to fulfill debt obligations in full. It should be noted that this indicator was achieved by the Republic of Belarus only in October 2017, before that it had a "-B" level.

S & P notes that such factors as the expected GDP growth of Belarus in the amount of about 2%, annually during 2017–2020, as well as providing the Republic of Belarus with reserves to fulfill foreign debt obligations in 2018 contributed to the rating upgrade.

The restoration of the economies of the main trade partners of Belarus, primarily Russia, played a role, as well as the moment that the country managed to settle its differences with the Russian Federation in the oil and gas issue.

Analysts of S & P noted that in the future the rating could be further increased provided that Belarus reduces its dependence on external shocks and eliminates a number of potential vulnerabilities in the economy [10].

So, based on the analytical materials presented in this publication, we can conclude that the Republic of Belarus is sufficiently stable and attractive to assess international economic and credit ratings, improve certain

indicators of the investment climate. This trend, in turn, should lead to an increase in foreign investors. Favorable investment climate contributes both to GDP growth, and creation of new jobs, increase in the volume of exported products, creation of various subjects of innovation infrastructure.

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Economics

UDC 656.073:330.4:811.111

ECONOMIC AND MATHEMATICAL MODELLING OF SUPPLY CHAIN

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The article highlighted the main problems of irrational wasting of material resources and money used during the transportation and in other industries. Also it deals with the criteria and ways to optimize flows in supply chains, presents options of software products for the rationalization of supply chains via using mathematical models.

The latest achievements in projecting the technology of supply chain have given a rise to useful optimization of the companies. Modern enterprises can manage the great amount of information for projecting, analysis and optimization the operation of the supply chain, starting with extensive rationalization of a whole net and ending with rationalization of product lines and analysis of transport flows. Being the part of continuing process of projecting a supply chain, expression 'modelling of production' can be used for designation the main enhancements: price, service, risks.

The main criteria of improving the effective functioning of supply chain are:

1) maximization of profit;
2) risk management;
3) minimization of costs.

The opportunities of approach, allowing to *maximize profit,* which is gained from completing requests by choosing the best option of their fulfilment, are shown in [1].

It's clear today that the *risk management* problem is relevant. The risk turns into an integral element of socio-economic relations and becomes a great part of socio-economic political strategy and tactic of enterprises.

Logistical risks include customs risks, risks of failure in supply, damages in the fulfilment of logistical operations for each element of supply chain etc. It is accepted to divide transport risk into auto-hull risks and cargo risks [2]. In the first case the risk source is a vehicle, in the second one – goods, which are moved by vehicle.

One of the planning and supply chain management goals is *minimizing logistical costs*, i.e. fulfilment of logistics operations costs. Total logistics costs consider the whole range of costs associated with logistics, which includes transport and warehousing costs, but also inventory carrying, administration and order processing costs (fig. 1).

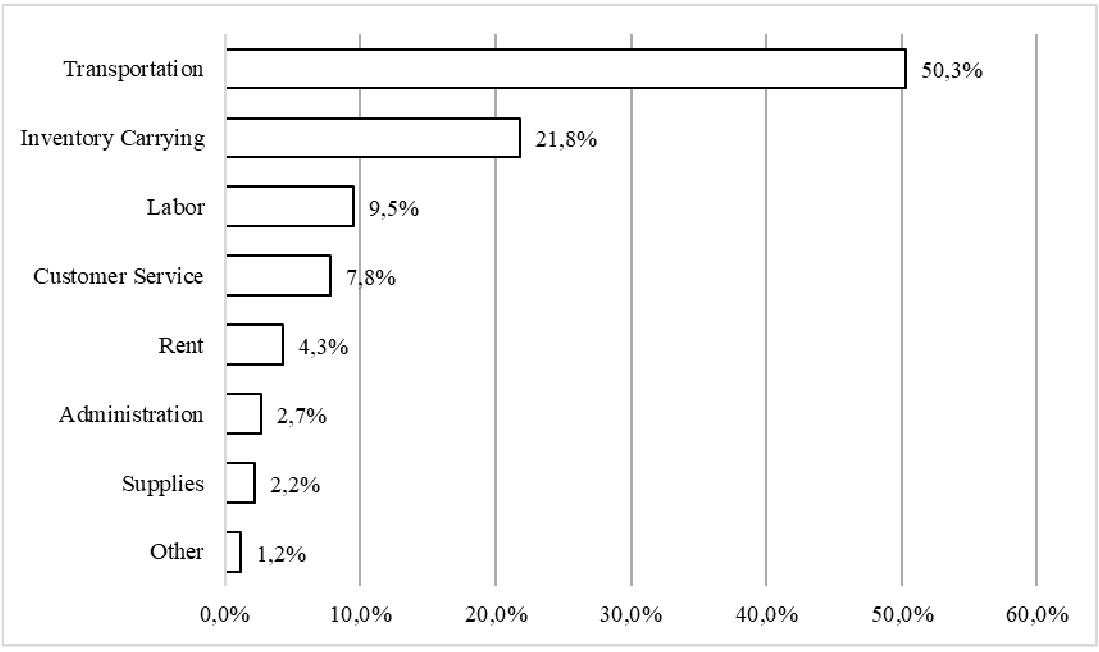

Fig. 1. The share of logistical costs

Every logistical activity leads to costs emergence, so in order to plan them, it's useful to merge them in accordance with the main logistical activities of supply chain (table 1) [3].

Table 1 – Logistical costs structured by basic logistical operations

Provision	Transport	Manufacturing	Stock	Distribution
Purchasing raw materials	Transportation rates	Order processing	Warehousing	Order processing
Processing the order	Cargo transshipment	Intra-company transportation	Operating the warehouses	Mission costs
Losses of stock shortages	Storage and freight forwarding	Storage of semi-finished products	Storage facilities rent	Warehousing functionalities
Correction of manufacturing defects	Loading and unloading of the goods	Workflows management	Stockpiles insurance	Invested capital

It would be more appropriate to talk about total logistical costs looking at supply chains. Total logistical cost is a set of costs, which are related to managing and moving material, information and financial flow through the whole supply chain.

For solving complex supply chain tasks, in which the aforementioned optimization criteria are combined in different ways, it's necessary to turn to computer modelling and numerical methods usage.

Linear programming models and their optimization methods play the main role in all types of supply chain management missions. Models and methods were originally conceived for optimization of limited resources distribution in maintaining the economic activity.

Formally, the task of production program optimization can be described by the following linear programming model:

$$\begin{cases} \sum_{j=1}^{n} c_j x_j \to max \\ \sum_{j=1}^{n} a_{ij} x_j \leq b_i, 1, \dots, m; \\ x_j \geq 0, \quad j = 1, \dots n. \end{cases} \quad (1)$$

where n – the number of products;

m – the use of production resources (i.e. production capacity, raw materials, labor);

a_{ij} – the share of resource i at the product j output;

c_j – the profit from the output and the sale of product j;

b_i – the number of available resource i;

x_j – the output amount of product j.

The model (1) is determined as a linear programming model in standard maximizing form. The examples of its solving and different variations of this task are described in [4].

To create a linear programming model correctly it's necessary to identify the dependences between variables. It requires correlation and regression costs analysis. Correlational analysis represents detecting the impact of independent values on dependent ones and on each other, while regression analysis represents model formulation and determination its statistical significance level.

As a result of correlation and regression analysis the most significant cost are found and dependence equations between such costs and efficiency indicators of the enterprise are built. These equations are used after in formulation the linear programming task.

For conducting complex statistical analysis, in particular correlation and regression analysis, advanced statistical programs like IBM SPSS Statistics should be used. SPSS Statistics is a software package used for logical batched and non-batched statistical analysis. SPSS provides a wide choice of statistical instruments beginning from determining standard sample indicators (mean, mode, median) and ending with complex researches (different types of t-tests, ANOVA). The software name originally stood for Statistical Package for the Social Science (SPSS), reflecting the original market, although the software is now popular in other fields as well, including the health sciences and marketing.

For solving both statistical tasks and linear programming models MS Excel is frequently used. For choosing MS Excel as a software there are built-in functions and some search for solution algorithms (MS Solver). Its disadvantage is related with the absence of opportunity to solve some categories of optimization

tasks, i.e. mixed integer programming using Boolean variables. Also as a disadvantage of MS Excel can be identified a limit on the number of variables (200 cells), that makes impossible to solve major problems.

There are a lot of software specializing at linear programming in the market, for example MATLAB and Mathcad, which are specially focused on solving mathematical tasks, or Business Studio, which is aimed to business process modelling. Also it is worth to highlight Statistica software – instruments for data analysis, visualization, prediction etc.

Optimization software package IBM ILOG CPLEX Optimization Studio (often informally referred to simply as CPLEX) deserves specific attention. CPLEX Optimizer was named for the simplex method as implemented in the C programming language, although today it also supports other types of mathematical optimization and offers interfaces other than C.

CPLEX Optimizer provides flexible, high-performance mathematical programming solvers for linear programming, mixed integer programming, quadratic programming, and quadratically constrained programming problems. These solvers include a distributed parallel algorithm for mixed integer programming to leverage multiple computers to solve difficult problems [5].

CPLEX enables to optimize all business decisions, develop and deploy optimization models quickly, and create real-world applications that can significantly improve business outcomes (it's possible to optimize the models with billions of constants and variables).

CPLEX Optimizer has flexible interfaces, that gives developers a variety of ways to interact with it during the development and deployment of their applications. CPLEX doesn't give a single-valued solution, it looks for different options. That's why the necessity to variables replacing excludes.

Presented options for solving task of costs, profit etc. optimizing can be used not only in supply chain engineering. Economical and mathematical methods of modelling play a crucial role in determining the optimal quantity of produced items, in building the product portfolio, organizing better product distribution at the end of delivery and so forth.

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UDC 332.1

RESEARCH OF THE INFLUENCE OF THE FORMATION OF THE KNOWLEDGE ECONOMY FOR REGIONAL DEVELOPMENT OF THE REPUBLIC OF BELARUS

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The hypothesis of dependence of the economic development of the regions of the Republic of Belarus on the level of the knowledge economy index has been tested and confirmed. Calculation of linear correlation coefficients of dependence of GRP value on the index of knowledge economy and its subindexes is performed. Calculations have shown that the level of development in the innovation and ICT regions has the strongest impact on the growth of GRP

Introduction. The economy of the Republic of Belarus is undergoing a transformation period, which is characterized by the need to take into account all global trends in the development of economic systems. It is important for the Republic to form such a model, which would respond to modern challenges, at the same time allow to consider national peculiarities and ensure social and economic development. It should be noted that the Republic of Belarus does not possess significant natural resource potential in order to compete with the economies of foreign countries on the world stage. But at the same time, as experts admit, Belarus has substantial human capital. Thus, it is necessary to use exactly the economic model that could realize this potential in full. It is this model that can serve the knowledge economy.

Task information. This article discusses the theoretical foundations of the knowledge economy, which help to find a suitable model of the national economy of the Republic of Belarus in the absence of a significant natural resource potential. In addition, on the basis of the method of correlation and regression analysis the task is to assess the impact of the regional indexes of the economy for the economic development of the regions of Belarus.

Result, their discussion and perspectives. Modern trends in the world economy [1] lead to the formation of a new concept of economic development. The new, post-industrial stage of society's development and the corresponding type of economy are increasingly focusing on information, high technology, innovation, a person with his knowledge and skills. Thus, this direction of development will allow to move to a qualitatively new level of management, both at the macro and micro levels. There is a growing need to revise the old methods of management and organization in the context of globalization, improvement of communication systems and methods of generating new technologies. The importance of intellectual products such as "know-how", knowledge of the organization is greatly increased in production. These trends indicate the transition of economies to knowledge economies.

The knowledge economy is based on intangible assets and intellectual capital, which is different from the industrial economy based on tangible assets and financial capital. Knowledge economy fundamentally changes all traditional principles, approaches and models of competitive entrepreneurship development. Entrepreneurship in the knowledge economy is increasingly focused on maximizing the market value of companies, in which intangible assets (technological, marketing, customer, etc.), which are the result of the effective use of the intellectual capital of the organization, begin to occupy the main share. Consequently, the role of effective management of intellectual resources increases in the conditions of knowledge economy [3].

The main prerequisites for the formation of the knowledge economy and the creation of knowledge management systems at different levels should be considered [4]:

– transformation of knowledge into a factor of production along with factors such as labour, natural and material resources;
– the increase in the share of the services sector and faster growth of services for business;
– increasing the importance of intellectual capital and investment in education and training;
– development and widespread use of new information and communication technologies;
– turning innovation into the main source of economic growth and competitiveness of enterprises, regions and national economies.

Foreign scientists [5] have long studied the theory of knowledge economy. One of them is the famous Austrian-American scientist Fritz Machlup. This subject was also studied by such scholars as D. Bell, B. Vernadsky, E. Toffler, K. Arrow and many others.

Currently, Ukrainian and Russian scientists pay much attention to problems of formation of a postindustrial society and the formation of the knowledge economy: V. Geyets, V. Logachev, V. Makarov, V. Seminozhenko, M. Sheresheva.

Three graduates of the University of Vienna, who later lived and worked in the United States – Joseph Schumpeter, Friedrich Hayek and Fritz Machlup, laid the foundations of the knowledge economy. The founder of the knowledge economy as a discipline is considered to be Machlup, author of the book "the Production and distribution of knowledge in the United States," written in 1962 and translated into Russian language in 1966. Then, the knowledge economy was understood simply as one of the sectors of the economy. As the social role of science grew, knowledge-based economies became increasingly understood as a certain type of economy, where the knowledge sector played a crucial role and knowledge production became a source of economic growth. Similar concepts are innovation economy, knowledge society (knowledge society), information society, high-tech civilization.

Machlup defined the knowledge economy as follows: 'One of the sectors of the national economy in which the production, processing and knowledge management'.

The knowledge economy index is a comprehensive indicator of the level of development of the knowledge-based economy in countries and regions of the world. Developed in 2004 by the world Bank group (The World Bank) in the framework of the special program "Knowledge for development" (Knowledge for Development– K4D) to assess the ability of countries to create, adopt and disseminate knowledge. It is issued annually. It is expected that the Index should be used by States to analyse problematic issues in their policies and to measure a country's readiness to move to a knowledge-based development model.

The basis for the calculation of the Index is the world Bank's "Methodology of evaluation of knowledge" (The Knowledge Assessment Methodology — KAM), which inclu des a set of 109 structural and qualitative indicators, grouped into four main groups [2]:

The index of economic and institutional regime (The Economic Incentive and Institutional Regime) - the Conditions in which the economy and society as a whole are developing, the economic and legal environment, the quality of regulation, the development of business and private initiative, the ability of society and its institutions to effectively use existing knowledge and create new ones.

Education index (Education and Human Resources) – the level of education of the population and its stable skills of creating, disseminating and using knowledge. Adult literacy rates, the ratio of registered pupils (students and schoolchildren) to the number of persons of appropriate age, as well as a number of other indicators.

The innovation system index-the Level of development of the national innovation system, including companies, research centers, universities, professional associations and other organizations that perceive and adapt global knowledge to local needs, as well as create new knowledge and based on it new technologies. Number of researchers engaged in R & d; number of registered patents; number and circulation of scientific journals and so on.

Index of information and communication technologies – ICT (Information and Communication Technology – ICT) – the Level of development of information and communication infrastructure that facilitates the effective dissemination and processing of information.

For each group of indicators, countries are rated in points – from 1 to 10. The higher the score, the more the country is rated according to this criterion. The calculation also takes into account General economic and social indicators, including the annual growth of gross domestic product (GDP) and the human development Index (HDI) of the country.

Table 1 shows the data that show how indicators such as "innovation", "education", "ICTs" and the indicator "GDP per capita" affect the development of the knowledge economy in the Republic of Belarus.

The indicators presented in table 1 allow a comparative analysis by region of the Republic of Belarus.

The leader among the areas of the knowledge economy index and the knowledge index is Minsk, which is quite natural, because Minsk is a place of concentration of industrial, scientific, innovative, educational, information and communication spheres.

The Minsk region follows Minsk city, which is inferior to other regions in the subindex of education due to the lack of universities in the region.

Table 1 – The values of KEI and its constituent sub-indices in the regions of the Republic of Belarus

	Rank	KEI	GRP per capita (RUB m/person.)	Innovations	Education	ICT
A	1	2	3	4	5	6
Brest region	5	3,657	44,137	3,750	4,446	6,248
Vitebsk region	4	3,978	44,759	6,070	6,190	4,109
Gomel region	3	4,388	50,5	6,249	6,507	6,070
Grodno region	7	3,245	52,309	3,574	4,288	4,109
Minsk city	1	5,457	84,029	8,214	8,096	8,929
Minsk region	2	4,460	65,099	7,676	4,443	7,141
Mogilev region	6	3,592	44,635	4,466	6,189	3,395
Average value	-	4,112	55,067	5,714	5,737	5,714

Source: [6, p. 30].

Vitebsk region is on the 4th place, occupying the middle position among the regions. Being higher in the rating of Brest region, Vitebsk region is inferior to it in the subindex of ICT. In the last place in the ranking is Grodno region, which is inferior to the standing before her Mogilev region in all respects, except the subindex of ICT.

Table 2 – Assessment of the influence of the knowledge economy index and its subindexes on the level of economic development of the regions of the Republic of Belarus

Indicators of the degree of tightness of communication	Assessment of the impact on GRP per capita			
	Index of knowledge economy (KEI)	Innovations	Education	ICT
The linear correlation coefficient	0,850	0,788	0,484	0,832
The empirical coefficient of determination	0,723	0,621	0,234	0,692

Source: calculated by the author according to table 1.

The close links presented in table 2 are calculated using the Microsoft office Excel software product. Calculations have shown that the relationship between the GRP indicator and the knowledge economy index calculated by regions of the Republic of Belarus is strong. The impact of Innovation and ICT sub-indices on the gross regional product is also strong.

The obtained results confirm the conclusions made earlier [7, 8], about the most actual directions of activation of points of economic growth in the regions of the Republic of Belarus, including innovative development, development of small entrepreneurship in the innovative sphere.

However, for the development of regional growth points, it is necessary to know in what forms the creation and activation of potential growth points is possible. In the studies devoted to the problems of regional development in accordance with the concept of growth poles [10], these issues are reflected. In work [10] the following forms of creation and activization of poles of growth are allocated: clusters; technoparks; zones of technical and economic development; small industrial formations; zones of development of hi-tech production; free (special) economic zones; territorial production complexes.

The most relevant forms of creation of growth poles were chosen [9]: creation of innovation-active organizations, including in the field of small business; development of free economic zones. The choice and characteristic of these forms of creation of poles of growth in regions is caused by results of the analysis [7, 8] asymmetries of development of regions of RB which showed that on these spheres the greatest regional differentiation is observed.

The paper [9] presents the legislative and regulatory support provided by the state to these spheres of activity, describes the risks associated with the implementation of actual forms of creation of growth poles and considers ways to overcome them. The obtained data [10] showed how such indicators as "innovations", "education", "ICT" affect the formation of the knowledge economy in the regions of the Republic of Belarus.

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UDC 657

DEVELOPMENT OF AUDIT OF FINANCIAL INVESTMENTS IN SECURITIES IN PRACTICE OF THE INVESTOR AND ISSUER

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In the article there is considered the economic essence of financial instruments as objects of audit from the perspective of the investor and issuer. The author's technique of audit is developed which will promote the improvement of work quality of audit organization and expression of reliable opinion in the audit report.

In the Republic of Belarus, at the present stage of development, the national accounting system and audit based on practice of rapprochement with the international standards and designed to render assistance to development of the social and economic relations is formed. In this regard, founders and shareholders and also holders of securities and creditors are interested in receiving reliable information about the solvency and financial condition of the organizations. Users of financial statements can obtain such information by results of independent financial control – audit.

Thus, auditor activity is a component of the mechanism of market economy. The integral attribute of market economy are as well securities. Therefore audit of securities is one of the most important directions of auditor activity for today.

In the Republic of Belarus National rules of auditor activity «Audit planning» are approved. The list of the questions which are subject to check during the obligatory audit of annual accounting (financial) reports includes check of correctness of reflection in accounting of financial investments debt securities and authorized capitals of other organizations, check of correctness of reflection in accounting of the granted loans and also formations and uses of reserves under depreciation of short-term financial investments [1].

Thus, according to National rules, objects of audit of securities are reflected in the account and reporting of operation with securities of the managing subject. Respectively concrete types of securities and sources of their financing are excluded from this list though they have significant effect on formation of accounting reports. The analysis of standard and legal base of the Republic of Belarus causes a need of development of a technique of audit of financial investments which will allow to carry out audit of the specified financial instruments separately at the investor and issuer (see fig. 1).

For example, in registration practice of the investor, securities are the short-term or long-term financial asset certifying the property and non-property rights which the organization intends to keep before a repayment period or resale in the secondary market [2]. And in registration practice of the issuer, securities are a short-term or long-term financial obligation which the issuer is obliged to execute on the expiration of a certain period, presented in the electronic or paper form, the established form and the corresponding requisites [3].

At the first stage when determining an object of audit it is necessary to consider what object of external audit of securities of the investor and emiten is reflected in account and the reporting of operation with securities, and objects of internal audit – the securities withheld before repayment and intended for trade.

When checking formation of structure of financial investments, the auditor recognizes that according to the legislation of Republic of Belarus financial investments in securities are classified proceeding from circulation periods and are reflected in long-term and short-term assets of the balance sheet.

The auditor determines for acquisition and sale of financial investments by primary documents and contracts what objects are correctly considered on account 58 "Short-term financial investments" and 06 "Long-term financial investments" and also on account 76 "Settlings with different debtors and creditors" [4].

The following procedure is a check of correctness of formation of financial investments cost. It should be noted that standard and legal documents on accounting of securities give several definitions to the cost at which they can be considered. According to the Instruction for accounting of securities « acquisition of securities in accounting is reflected at the actual price of acquisition …" or at "fair value" [5]. According to IFRS (IAS) 39 financial instruments have to be reflected at their fair or market value, but not at prime cost. In registration practice of the investor and issuer can different types of securities will be applied, namely [6]:

1) the financial investments estimated at fair value with reference of her change in profit and losses;

2) the financial investments available for sale (are intended for deduction in the organization for unlimited term and can be sold for the purpose of increase in liquidity of the organization);

3) the financial investments withheld before repayment (with the fixed payments and a repayment period).

4) the financial investments brought in the account of a contribution to authorized capital of the organization are accepted to accounting at the initial cost which represents their monetary assessment coordinated by founders (participants) of the organization if other isn't provided by the legislation.

During check features of formation of cost of financial investments at their leaving as any mistakes are essential from the point of view of their influence on reliability of formation of financial results have to be considered. The cost of leaving of financial investments by which the current market value is determined has to pay off proceeding from the last assessment. When leaving securities by which the current market value isn't determined their cost can be calculated in various ways which have to be fixed in accounting policies.

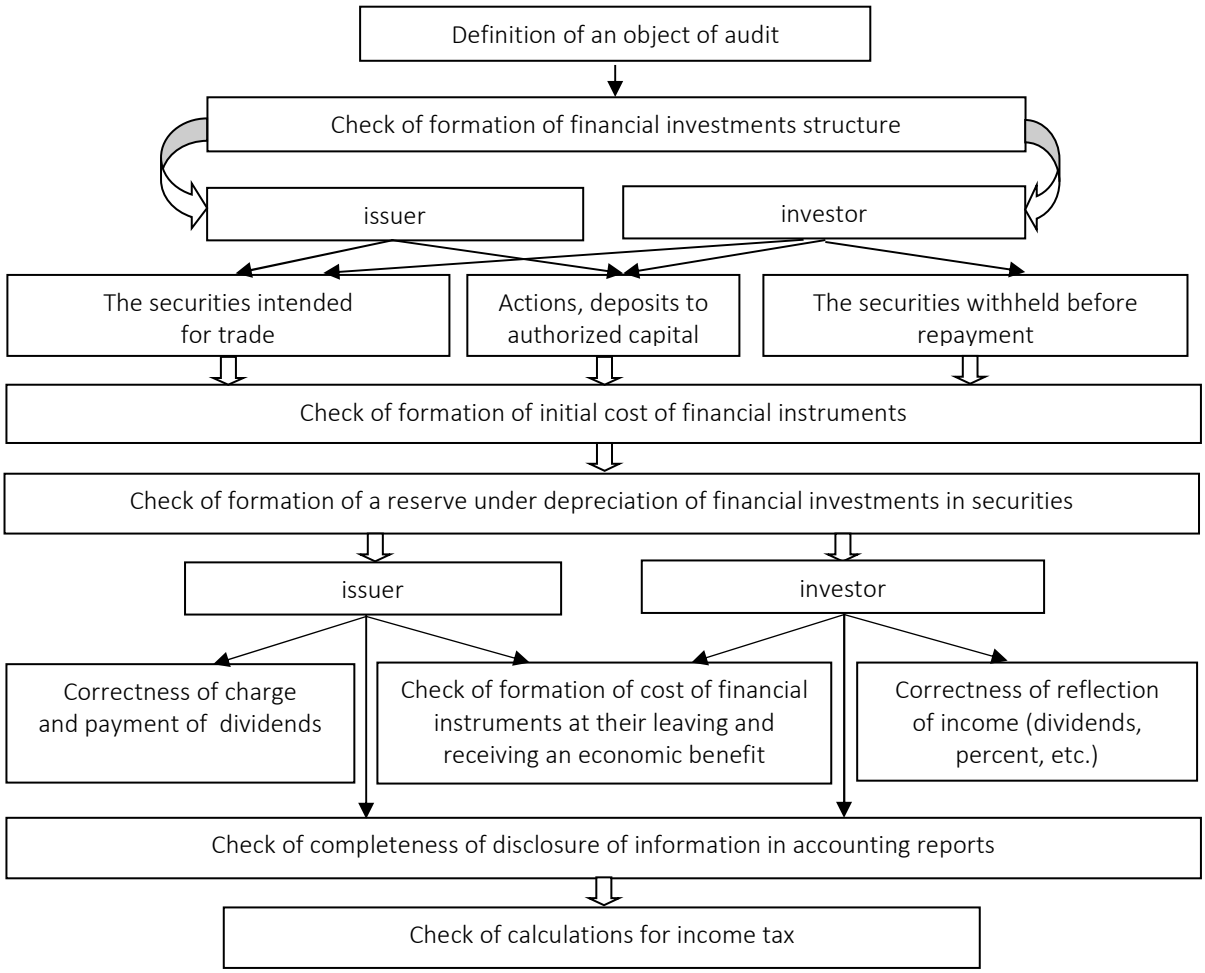

Fig. 1. Classification of financial instruments

In the conditions of rapprochement of a domestic accounting system with the international standards the technique of check of the operations connected with depreciation of financial investments was considerably updated. Check on depreciation should be made at least once a year as of December 31 of financial year with signs of depreciation. The organization has the right to do such check and for reporting dates of intermediate accounting reports. At confirmation of financial investments depreciation in the organization due to financial results the reserve under depreciation of financial investments has to be created. Information on reserves under depreciation of investments in securities is reflected in account 59 "Reserves under depreciation of short-term financial investments".

Check of completeness of disclosure of information in accounting reports consists in disclosure at least of information on determination of the current cost of long-term and short-term financial investments and also the reserve sums under depreciation of short-term financial investments. As are presented in the balance sheet of the data on financial investments in narrow structure, all other necessary information on them should be

reflected in the explanatory note and with division of financial investments depending on their look (withheld before repayment and intended for trade).

When checking calculations for income tax by the auditor features of definition of tax base on operations with securities which are regulated by the Tax Code of Republic of Belarus have to be considered.

Thus, when carrying out audit of operations with financial investments it is necessary to be guided by the International principles and standards and also to consider essential changes of requirements of the legislation.

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Economics

UDC 336

HEDGING OF CURRENCY RISKS OF NON-FINANCIAL ORGANIZATIONS

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The article discusses the essence of the hedging method, its role in the management of foreign exchange risks of exporters (importers), provides theoretical definitions of hedging instruments and the hedging process.

Task formulation. In the context of the deepening process of internationalization of the world economy and the transition to globalization of the world economy, the problems of professional risk management and operational accounting of risk factors are of paramount importance for financial market participants.

Among the risks that have the most devastating impact on the financial performance of a country's economy, it is necessary to highlight currency risks associated with changes in exchange rates.

The volatility of the foreign exchange market has a negative impact on the activities of enterprises participating in foreign economic activity, reduces the financial result of their work in the event of adverse changes in the exchange rate.

Currency risk is a probabilistic category. In some cases it is not possible to forecast and predict the trend of the foreign exchange rate for a long period. The exchange rate dynamics is influenced by many different factors - from the decisions of Central banks to the behavior of prices in world commodity markets.

The result of an effective currency risk management is the reduction of losses due to changes in world currency rates, the reduction in the uncertainty of future financial flows, ensuring more efficient financial management and reducing profit fluctuations.

Solving the problem of minimizing the currency risks of non-financial organizations predetermines the need to solve the following tasks:

1) to review existing approaches and principles of currency risk management by non-financial organizations;

2) to expand the use of currency risk hedging instruments in an expanding financial market.

Main body. Hedging in the world practice has long been used to optimize currency risks, the number and variety of methods and tools with which hedging is performed [3, 5].

Derivatives market in its present form began to develop actively with the emergence of the need for hedging floating exchange rates introduced at the Jamaican currency conference in 1976. Before the principles of the Jamaican monetary system were proclaimed, exchange rates were fixed, implying no currency risk in international economic relations [1].

In turn, the need for hedging foreign exchange risk was the reason for the active development of derivative instruments in the foreign exchange market, which led to the spread of hedging techniques and speculative operations with derivative financial instruments (hereinafter DFIs).

We will investigate the essence, mechanism, strategies and instruments of hedging foreign exchange risks on the basis of foreign experience [5, 6].

Hedging transactions (hedging) are forward transactions closed in order to prevent possible losses as a result of changes in prices and rates of commodity, currency, stock and exchange markets. They are closed not for speculative purposes, but in order to minimize the risk.

We emphasize that the hedging operation involves making two transactions. One transaction is a common forward transaction and the subject of the economy assumes the obligation to perform some actions in the future at a fixed price in the present. The other is a transaction with DFIs, by means of which an economic entity protects itself from adverse price (exchange rate) changes of the financial asset, with respect to which it assumed forward liabilities. In addition, it should be noted that for market participants price (exchange) risks are important not only for the concluded forward transactions, in which they are obliged to perform future actions for the purchase/sale of the asset. Price (exchange rate) risks are a significant factor for them in planning future actions. In this case, through the conclusion of a transaction with a derivative instrument, the producer or consumer of the goods is able to fix an acceptable level of future price of the goods, thereby protecting their plans from the risk of price (exchange) changes.

On the other hand, the hedging operation does not always imply the compulsory and simultaneous conclusion of both transactions: a forward transaction with a commodity subject to currency risk and a derivative transaction for the future delivery of that commodity.

Therefore, we can state that the derivative instruments, in addition to their stated above main purpose to fix the future price, there is one more additional purpose - to hedge an unfavorable development of the price situation (exchange rate volatility) in the derivatives market.

An important point here is that the presence in the economy of the futures market (the market of the basic DFI asset) and the derivatives market of the DFI, absolutely different from the point of view of their functioning mechanisms, leads to the emergence of a hedging phenomenon, in the course of which the results of two transactions - a forward transaction with the underlying asset and transactions with DFI are balanced.

The economic concept of hedging is the process of concluding new transactions and establishing relations between transactions to ensure the necessary netting aimed at reducing financial (currency) risk. The hedging operation is to find a quantitative relationship between the changes in the prices of the hedged asset in its two different markets: primary and secondary. This relationship has an objective economic character, because in different markets of the same asset, price changes are on average closely related.

The main difference between hedging and other types of transactions is that its purpose is not to gain an additional profit, but to reduce the risk of potential losses. This difference reveals the main goal of hedging – to achieve the optimal risk structure, that is, the optimal balance between the advantages of hedging and its value.

In the process of risks hedging, it is necessary to compare the cost of the hedge with the amount of the reduced possible losses on risk. In combination with each other these two indicators form the effectiveness of risks hedging.

When hedging, it is important to accurately select the hedging objectives in order to correctly determine its effectiveness. In general, the effectiveness of a hedge is determined by the ratio of the actual financial result to the planned result.

The process of currency risks hedging can be described by the following sequence of steps:

1) making a decision to hedge: whether or not to carry out a hedging operation (risk assessment in comparison with possible costs);

2) determination of the hedging objectives, the hedging object;

3) data collection: the amount of currency reflected in the balance sheet, future currency transactions, etc.;

4) the development of a currency risk hedging plan (search for someone who will hedge foreign exchange risk, organize internal control and process, implement a currency hedging strategy of an established or unidentified type);

5) accounting of the hedging transaction and analysis of the results (eligibility, documentation and verification, fair market value, profit/loss accounting for transactions of an unidentified type, special hedge accounting for transactions of a specified type).

It should be noted that certain risks are inherent in hedging. We emphasize that the main risk of hedging is the risk associated with a change in the base price. There always exists the risk of a change in the base price, because the prices of real and futures markets do not differ significantly.

Another risk is a systemic risk, that is, the risk associated with sudden changes in external factors (legal framework, introduction of new tax rates, duties, etc.).

The main DFIs of the derivatives market, designed to hedge currency risks, can be currency forwards, currency futures, currency options and swaps.

The unifying beginning of the whole variety of hedging tools for currency risks is their key properties: their value changes when the basic variable changes, no investments are required to purchase them, or minor initial investments are required, payments on these instruments are made in the future.

In the course of studying the characteristics of the main DFIs, the dual nature of market relations in a derivative financial instrument is specified [2–8].

Since any market instrument is an agreement of at least two parties, a market participant who tries to save his capital must be opposed by another market participant who agrees to risk his capital in the hope of earning income from this market instrument. As a result the derivative tool is both an instrument for keeping capital intact, and an instrument for its multiplication. Otherwise, the derivative could not appear on the market.

A distinctive feature of DFIs is that the moment of the performance of obligations under the contract is separated from the time of its conclusion by a certain period of time, i.e. they are fixed-term.

For large companies and commercial banks the DFIs market is transformed into a market where the received profit serves as a hedge (protection) of the company's total target profit.

Thus, the purpose of the hedge is to eliminate the uncertainty of future cash flows (both negative and positive), which will allow you to have a comprehensive idea of future income and expenses arising in the course of financial or commercial activities.

We consider it expedient to give our own definition of the concept of "hedging instruments" which is based on the conducted research.

Hedging instrument is a derivative financial instrument used to optimize the price risk of the underlying asset under the assumed and planned commitments with maximum possible efficiency according to the developed hedging strategy which allows you to receive additional profit when it is implemented (under certain conditions).

Hedging, as a risk minimization technique, has a number of obvious advantages in comparison with other techniques:

– futures contracts on the basis of which hedging is performed, fix the price level of the underlying asset, and allow not to forecast the change in the value of the underlying asset, but to fix it at an acceptable level;

– on the basis of the information that futures contracts contain, it is easy to be up to speed on the demand and supply for these or other assets and thus be insured against losses.

A new definition of hedging is proposed, which includes the following main distinctive features:

1) it is an independent type of economic relations, based on the use of hedging instruments;

2) it provides greater objective predictability of the future financial flows (distinguishes the hedging process from other risk management techniques);

3) it optimizes the risks of the main business activity of a business entity (distinguishes hedging from speculation and arbitrage, which also use derivative financial instruments);

4) it takes into account the assumptions about possible changes in the risk factor in the future with a view to effecting effective hedging.

Hedging is an independent type of economic relations with respect to optimization of price risk for accepted and planned liabilities through the use of hedging instruments with the greatest possible efficiency.

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THE CONCEPT, CAUSES OF OCCURRENCE AND THE TYPES OF CRISIS IN MODERN ECONOMY

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The article deals with the term "organizational crisis". A definition of organizational crisis on the ground of the theoretical research is given. The importance of definition of the main approach to the term "organizational crisis" is emphasized. The main causes, symptoms and factors of crisis are discussed. Great importance is given to the organizational crisis classification.

Introduction. Impressive improvements experienced in information, communication and transportation technologies today have almost eliminated distances. Goods and services generated at different locations of the World are immediately served to all consumers in the World. Organizations compete with each other to give more qualified, cheaper and faster service to their customers in order to sustain their existence. If business is disrupted, an organization will usually suffer financial losses (e.g., lost productivity, a drop in earnings). Crisis damage extends beyond financial loss, however, to include injuries or deaths to stakeholders, structural or property damage (on and off site), tarnishing of a reputation, damage to a brand, and environmental harm. There are a lot of books written about crisis management, but there is no one accepted definition of a crisis. Having a specific definition is important because how a subject is defined indicates how it is approached [Coombs T., 2015].

Task formulation. The aim of the research is to analyze the theoretical basis of crisis management, especially in how the "organizational crisis" is defined.

Methods of research. Dialectic and system approach, analysis, synthesis, deduction, analogy, classification.

Results and their discussion. The basis of any scientific study is a conceptual framework used in the process of studying the subject area. The formation of a crisis management system in the organization is impossible without a clear understanding of the term "crisis". This topic is basic.

The roots of the notion of "crisis" come from the Greek language. The expression "krisis" originates from the verb "krino", which meant to separate, select and take a decision between two opposing options, life or death, success or failure. The word "krisis" refers to a dangerous situation, heavy decisive and fundamental moment in which the question (about the result, the subsequent existence of subsequent development), minute, in which people feel uncertainty, confusion and difficulty [1].

The word crisis has a broad sense. It is used both in daily life and in various specialized scientific fields such as political science, sociology, economics, medicine, psychology, etc. This work considers a narrower concept of crisis of the organization from the perspective of contemporary approaches of economics.

Currently, crisis management theorists have no clear common definition of "organizational crisis". Various scholars consider this term with the positions of their subjective understanding of the importance of individual characteristics, effects, reflected the term.

There were in the Table 1 systematized the basic views of scientists involved in the development of the theory of crisis management, on the definition of "organizational crisis".

Having examined the views of the Belarusian and foreign scientists, the following characteristic of crisis of the organization can be defined:

- the crisis is a situation, event, time;
- the crisis is subjectively perceived;
- the crisis is closely linked to the point of fracture, changes from one system state to another;
- the beginning of the crisis is hard to predict;
- the crisis threatens the viability of the organization, i.e., there is a risk of bankruptcy;
- the difficulty of predicting the impact of the crisis;
- crisis calls for urgent solutions.

Thus, in this research the organization's crisis refers to unexpected pivotal situation, threatening the viability of the organization, subjectively perceived by each party, and requires urgent solutions.

According to Korotkov, any form of socio-economic system has two trends of its existence: functioning and development.

The functioning is understood like an organizational survival that determines its integrity, quality and essential characteristics [3].

Table 1 – Systematization of the modern definitions of "organizational crisis"

Author	Definition
Jarkovskaia, Brodsky [2]	Crisis is an extreme aggravation of the industrial and socio-economic relations, as well as the environmental relations.
Korotkov [3]	Crisis is an extreme aggravation of contradictions in the socio-economic system (organization), threatening its viability to the environment.
Baldin [4]	
Zub [5]	Crisis is an extremely unlikely event, able to threaten the vital functions of the organization, characterized by uncertain reasons and complexity of prediction the consequences, and calling for immediate solutions.
Popov [6]	Under crisis (in the broad sense of the term) the state of the organization is commonly understood, which preceded its transition into a different quality.
Fajnshmidt [7]	Organizational crisis is the process of losing its stability or transition to a new state of sustainability, and signs of this process are the loss of the organization's ability to meet its mission and goals or loss of vitality the organization.
Bainev [8]	The crisis is a limit aggravation of contradiction between the functioning and development of the socio-economic system (organization), threatening its viability and survival in the environment.
Coombs [9]	An organizational crisis is a low-probability, high-impact event that threatens the viability of the organization and is characterized by ambiguity of cause, effect, and means of resolution, as well as by a belief that decisions must be made swiftly.

The development is an acquisition of a new quality, strengthening livelihoods in the face of changing environment [3].

Arising contradictions in the functioning and development of socio-economic system need manifest themselves to crisis.

The cause of occurrence of the crisis is an event or phenomenon, the result of which leads the symptoms and factors of further crisis [2].

Thus, the stages of the crisis can be represented in Figure 1.

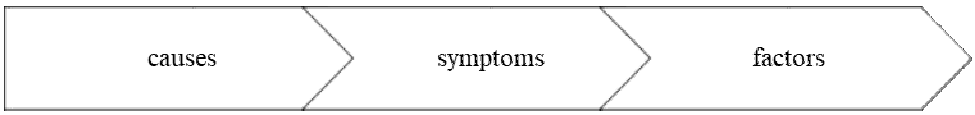

Fig. 1. Stages of a crisis

The causes of the crisis may be different. Both Russian (Jarkovskaia, Korotkov, Popov, Baldin, etc.) and foreign scholars agree on a division of the causes of internal and external crises.

Korotkov also provides objective reasons associated with cyclical needs of modernization and restructuring, and subjective, reflective errors and voluntarism in management, as well as natural, characterizing climate phenomena, earthquakes, etc. [3].

Along with the general division of the causes of the crisis, there are private concepts, concentrating attention on one side of the crisis. They include socio-political and structural-technological approaches.

From the perspective of socio-political approach, the causes of the crisis lie in the sphere of the culture of the organization and corporate ideology. Crisis in the organization occurs when staff expresses different views on the objectives of the organization and the means to achieve them-the so-called "crisis of rationality" [5].

In terms of structural-technological approach the causes of the crisis is the lack of flexibility of technologies, their inability to adapt to changing organizational environment [5].

As noted by Fajnshmidt in foreign practice crisis management distinguish sudden and smoldering crises. A sudden crisis is defined as "an unexpected and sudden violation of business". "Smoldering crisis" is a serious problem, which hidden existed and developed in organization until being identified was not known either inside

the company, nor out of it, and that can lead to exceeding all sorts of expected costs, dimensions losses and other troubles [7].

In accordance with this division, let's determine the causes of the organizational crises.

Any unforeseeable events can be the causes of sudden crises. Among them are [10]:

– disaster or accident;
– problems in the information systems organization;
– discussion of negative events (real or fictional) in the media and among stakeholders.

At the smoldering crises there are three reasons:

– the leadership of the organization;
– the staff of the organization;
– others.

In order to conduct effective crisis management there should be a systematization of organizational crisis causes. After reviewing scientific papers, the author defined the following classification of them, see in table 2.

This classification can be used to give a qualitative assessment of the crisis in the organization.

Table 2 – Classification of organizational crisis

Source	Sign	Types of crises
[8, 11]	scale	– local; – system; – overall; – partial.
[1, 3]	perspective	– financial-economic (sharp contradictions in economic status); – social (clash of interests of different social groups or entities); – organizational (crises of separation and integration activities, distribution functions, regulate the activities of individual units, as administrative units, etc.); – psychological (mental crises the human condition), – information (information organization received reality mismatch) – technological (the crisis of new technological ideas in terms of a clear need for new technologies).
[3, 8, 11]	severity of manifestations	– deep, – light.
[3, 4, 8]	predict probability	– predictable (natural)-for example a cyclical, – unexpected (random).
[3, 8, 11]	degree of manifestation	– explicit, – hidden.
[3, 8, 11]	the lifetime of the	– lingering, – intermittent.
[3, 8, 11]	the ability to manage	– managed, – unmanaged.

Conclusion. A crisis is the perception of an unpredictable event that threatens important expectancies of stakeholders related to health, safety, environmental, and economic issues, and can seriously impact an organization's performance and generate negative outcomes.

As the potential for crises increases, so does the potential for negative outcomes. Organizations are playing for high stakes when confronting crises. The reviewed developments demonstrate that the need for crisis management is increasing, not decreasing.

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THE IMPROVEMENT OF THE LOGISTIC ACTIVITY OF AN AUTOMOBILE TRANSPORT ENTERPRISE

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The article presents an overview of the logistic activity of the automobile transport enterprise, considers the planning and organization of the transport process, suggests the main ways to improve the logistics activities of the automobile transport enterprise.

The transport is one of the most important branches of the national economy, performing the function of a peculiar circulatory system in the complex organism of the country. It not only provides for the needs of business entities and the population in transportation, but also, together with cities, forms the framework of the territory, is the largest component of the logistics infrastructure, serves as a material and technical base for the formation and development of the territorial division of labor, has a significant impact on the dynamism and efficiency of the social-economic development of individual regions and the country as a whole.

The transport economy is the artery of the enterprise, which connects the material flows. The rhythm and quality of the transport services provided determine the stability and efficiency of the enterprise as a whole.

There are different types of transport and, despite their many positive characteristics, the most convenient and convenient way of delivering goods and cargo directly to the destination remains the automobile transport.

The automobile transport is the most popular and often used form of transport in logistics systems. This is due to its advantages such as high speed of delivery, flexibility, dynamism, high availability, the possibility of delivering cargo "from door to door". The automobile transport performs more than 50% of the total volume of cargo transportation and in fact is the main carrier [1].

Since the demand for transport services corresponds to the nature of economic growth, the prospects for the development of the automobile transport will be determined by the future demand for transportation, and the successful development of the market economy is accompanied by structural changes not only in the national economy, but also in the transport system itself.

The market economy has significantly changed the conditions for the operation of the automobile transport and the nature of the demand for its services. Denationalization of automobile transport enterprises contributed to the expansion of their economic rights and opportunities, the formation of commercial structures and the development of entrepreneurial activities. The development of the transport services market has put the automobile transport enterprises in new economic conditions, characterized by a tough competitive environment. The ability of the automobile transport enterprises to survive in modern market conditions is determined by competitiveness, the level of which can not be improved without applying the latest scientific forms, methods and technologies in the production process [2].

The activity of automobile transport enterprises in market conditions differs also in that the service that, like any product, has its own quality is put first, and only the transportation, measured by such gross indicator as freight turnover or volume of transportation, was considered to be the product of the automobile transport.

The services of automobile transport enterprises include the carriage of goods, the preparation of goods for transportation, handling and handling services, storage services, freight forwarding services, the provision of vehicles for rent and other additional services.

The important aspect of the transport process is the planning of cargo transportation. Planning a production program at any enterprise is a multifaceted process, the correctness of which depends on the achievement of the stated objective.

This is due to both a reduction in the duration of commercial operations, as well as an increase in the cost of storage, the need for rapid response to changes in consumer demand. So, the cost of producing some goods is only about 10% of their value, while the cost of delivery can be up to 50%. That is why in the conditions of the intensified competition, one of the directions of attracting customers is optimization of delivery design and transportation planning.

The basis for planning the transportation are schedules and schedules of transportation, compiled on the basis of the systematization of concluded contracts, filed applications, the study of freight flows. The latter assumes the analysis of cargo transportation for a certain period of time, both on individual routes, and on the entire route network.

Timetables and graphs should ensure:

– meeting the needs of the largest number of customers;
– maximum use of the capacity of vehicles in accordance with established standards;
– minimization of time spent on transportation;
– regularity of transportation;
– effective use of vehicles;
– relationship with schedules and schedules of other types of vehicles;
– minimization of empty runs of rolling stock [3].

If we talk about the most important logistics tasks to be solved by the automobile transport enterprises, we can single out such as the definition of optimal routes for the delivery of transported goods.

The movement of vehicles occurs along the routes. The route of the movement is the way of the vehicle when performing transportation. When designing the routes, it should be borne in mind that they should ensure the lowest transportation costs. Proper routing of traffic has a significant impact on the total amount of transportation costs.

The turnover of the rolling stock is a complete cycle of movement, i.e. movement along the entire route (with a return to the starting point) with the implementation of the corresponding operations [4].

The routing allows you to optimize cargo flows, taking into account the volume, direction and distance of traffic, the length of time, the load of different categories of traffic, the sequence of traffic, the efficiency of delivery.

The compilation of routes for the movement of vehicles is the main task of the automobile transport enterprise. The choice of the optimal option, which will give the best opportunities for increasing productivity, speed of delivery of goods and reducing the cost of transportation in specific operating conditions of rolling stock, is made with the help of computer tools. An approximate solution is obtained by drawing up cargo flows and arranging loading and unloading points on the map of the locality, focusing on the maximum reduction of zero and idle runs, reducing the idle time of the rolling stock and increasing the use of its carrying capacity.

The introduction of automated logistics systems in automobile transport enterprises will solve the problem of choosing the route and the intensity of transportation. With the help of such systems, it is possible to quickly and easily calculate optimal flights and routes based on incoming applications for the delivery of goods, an electronic map of the territory describing the transport network, delivery addresses and warehouses. In this case, the calculated routes will be optimized for such parameters as the minimum mileage of all cars and the maximum loading of each vehicle.

In the sphere of transport, the main directions for further practical application and development of logistics are related to radio frequency identification technology, the use of satellite navigation systems, the Internet network.

Radio-frequency technology for the identification of goods and carriers is known for more than thirty years, but only relatively recently, this technology has become more widely used in transport logistics. The spread of satellite technologies contributed to this.

Satellite technologies are the creation and operation of satellite communication systems, satellite radio navigation systems and dispatching systems for commercial transport management.

Satellite communication systems in conditions of long distances and low population density are of particular importance from the point of view of effective logistics. They allow obtaining objective data on the position in space and time of any transport units. When GPS or GLONASS satellite navigation systems are used, automobile transport enterprises can control the movement of their customers' cargoes at very significant distances (thousands of kilometers) and provide customers with such an opportunity, for example, on the Web site in real time [5].

Satellite monitoring systems allow to reduce transportation costs of enterprises by at least 10-15% due to almost complete suppression of left flights, theft of fuel, reduction of operating costs for the maintenance of vehicles, and the increase in the useful life of the vehicle.

In general, the main areas for improving transport facilities at enterprises are:

– mechanization and automation of transport operations in combination with their high organization;
– introduction of a unified transport technology;
– ensuring accessibility, improving the quality of automobile freight services, increasing the efficiency of automobile transport enterprises;
– Implementation of automated transport management systems;

– connecting the links of the logistics system to a single information network, which will allow tracking the movement of cargo and monitor traffic flows.

All these measures are designed to reduce the amount of transportation costs and deliver the goods just in time.

Thus, to improve the logistic activity of automobile transport enterprises, both the transportation process and the management of transport flows along the whole technological chain are needed, with coverage of the interacting links of different modes of transport. Route planning, organization of transportation up to the details of the process, clear co-ordination between transport participants, automated management system - all this is necessary for a successful road transport company to implement competent logistic policy. This fact is important, because operational logistics work depends to a large extent on the ability to flexibly and skillfully coordinate the work of many participants and, if necessary, to correct possible solutions to emerging problems in the activities of automobile transport enterprises.

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Economics

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THE LOGISTICS SYSTEM MANAGEMENT OF INDUSTRIAL ENTERPRISE

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The logistics system of the industrial enterprise is investigated. The paper presents the results of the analysis of the logistics system of OAO MAZ. The basic directions of efficiency maintenance of logistics system management is developed.

The concept of a logistics system is one of the basic concepts of logistics. A system is a set of elements interconnected with each other and forming a certain integrity, unity.

A logistics system is a complex set of elements that are in interrelations with each other, forming a single whole, in which the aggregate resource potential is brought, starting with the alienation of resources from the environment to the realization of the final output.

For management purposes, research and design of the logistics system can be divided into subsystems, links and elements.

The subsystem of the logistics system is a part of the logistics system, allocated in accordance with the organizational version of that in order to solve the tasks of both the logistics system as a whole and (or) a set of logistical functions in a separate business area of organizations [1].

The link of the logistic system is a certain economic and (or) functionally separate object (a subdivision of the company or a legally independent organization) fulfilling its local goal related to the implementation of one or several types of logistics activities. The element of the logistic system is the part of the link of the logistics system that is indivisible within the framework of the task of managing or developing a logistics system. For example, if the warehouse is considered as a link in the logistics system, then the picking, acceptance and shipping zones are elements of the logistics system [1].

The subjects of the logistic system can be industrial or commercial enterprises, a territorial production complex, a combination of production and infrastructure elements, as well as links at various levels (local, regional, state).

Competent management of the logistics system helps reduce the cost of material storage, reducing up to 75% of the time costs associated with the adjustment of equipment, reducing warranty costs up to 60%, increasing overall productivity by 30-45%, reducing the lead time to 80%, reducing the price of commodity units on average by 5%. For example, the use of a "just-in-time" logistics concept allowed Tayot's company to reduce the average annual cost of inventories to $ 40-50 per car, while at General Motors plants $ 500-600. The company Harley managed to reduce inventories of work in progress by $ 22 million, thanks to the use of the concept "just in time." Using a supply chain management system based on Internet technologies, Dell reduced production time to 4 hours. For six months of using this system, the company saved $ 15 million, and after three years - about $ 150 million [2].

When developing a logistics system, many factors that influence it are taken into account. At the enterprise, the logistics system performs the necessary services with minimal associated costs, due to the implementation of logistics operations. Therefore, the logistics policy takes into account two factors - the necessary level of logistics service and the minimum amount of logistics costs to achieve it, and the goal of logistics management is to establish a balance between these two components that are beneficial to both the consumer and the generator of material flow.

The effectiveness of a logistics system is called an indicator (or a system of indicators), which shows the level of quality of the logistics system at a given level of general logistics costs.

According to the opinion of the consumer, which is the final link of the logistics chain, the efficiency of the logistics system is characterized by the level of service quality of his order.

To increase the efficiency of the entire logistics chain, increased requirements are also needed for the system of performance indicators that must provide an assessment of logistics processes.

The following evaluation criteria are most common:

- expenses;
- customer satisfaction (quality);
- time;
- assets.

To determine the effectiveness of the logistics system, financial indicators are often used that allow a systematic approach to the problems analyzed and compare the results obtained. However, they reflect past results rather than current ones, they react slowly to changes, depend on a number of accounting methods and do not take into account important aspects of logistics. Sometimes financial indicators can show that something is going wrong, but do not show what exactly goes wrong or how it can be adjusted.

«MAZ» uses the tactics of direct marketing (the ability to purchase finished products directly from the warehouse of the enterprise).

«MAZ» uses both direct and indirect channels for the distribution of products at various levels.

The channels of the logistics system of "MAZ" are presented in Figure 1.

As can be seen from the presented scheme, the enterprise uses various channels of commodity circulation. Zero-level channel and a single-level distribution channel are the most costly (the content of branded stores, the salaries of store personnel, transportation costs for the delivery of products to the city's shops (without payment of transportation costs), etc.).

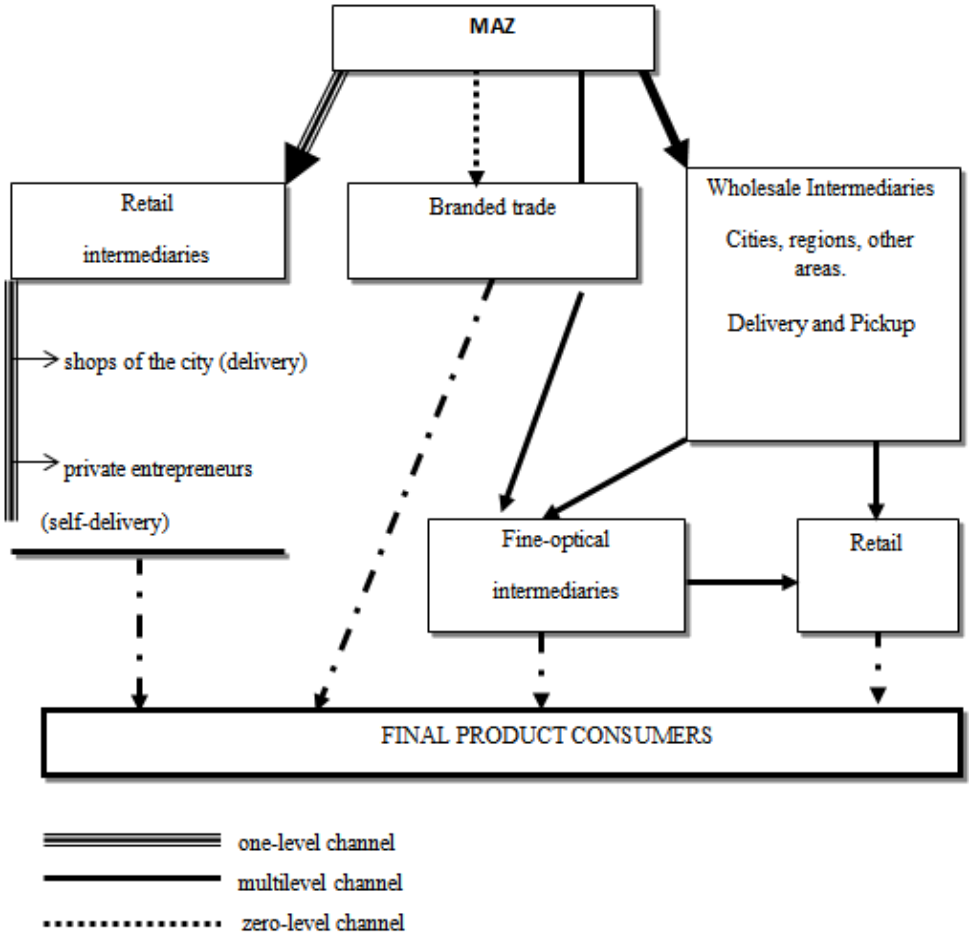

Fig. 1. Channels of the logistics system of the enterprise "MAZ"

Figure 2 shows the interaction scheme of the logistics system links.

The first level suppliers are:

1) Yaroslavl Motor Plant;
2) Volga Bearing Plant;
3) Bobruisk Tire Plant;
4) Forging plant of heavy stamping;
5) Baranavichy auto-aggregate plant;
6) Minsk Spring Plant;
7) Samara Bearing Plant.

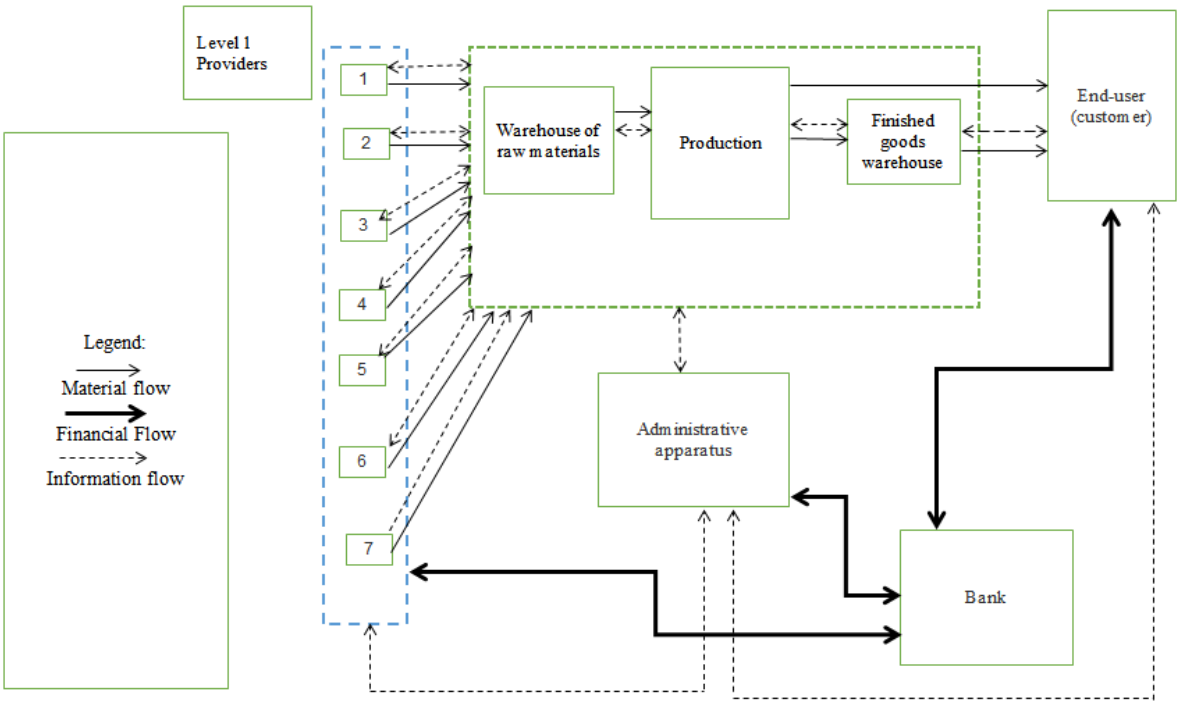

Fig. 2. Scheme of interaction of links in the logistics system

The long and wide network structure on the part of the supplier with the shifted focus company towards the consumer is combined with a short and narrow structure on the part of the consumer.

When describing and distributing business processes along the links of a logistics system, we can use the following classifications of business processes:

1) According to the APQC's model, the Process Classification Framework, the model includes 12 aggregated groups of business processes:

1. Develop a vision and strategy.
2. Develop products and services and manage them.
3. To carry out marketing and sell products and services.
4. Deliver products and provide services.
5. Manage the customer service.
6. To develop and manage human capital (personnel).
7. Manage information technology (IT).
8. Manage financial resources.
9. Acquire, erect real estate and manage it.
10. Manage environmental protection, health and safety (EHS).
11. Manage external links.
12. Manage knowledge, improvements and changes.

2) According to the model developed by J. Stoke and D. Lambert [3], which includes 8 key business processes: 1) customer relationship management; 2) customer service; 3) demand management; 4) managing the execution of orders; 5) management of production / operations; 6) supply management; 7) product development and bringing it to commercial use; 8) management of returnable material flows.

3) According to ISO standards [4]:

– basic business processes;
– auxiliary business processes;
– business process management.

For the modeling of business processes, various information technologies can be used to reflect the interconnection and interdependence of business processes in the logistics system, and to shorten the time for their design. For example, you can use such software products as Business Studio 4.0, Visio, IBM BPM, ARIS Express, BPMS (Business Process Management System), BPWin, ELMA BPM, etc.

The main problem of functioning of the MAZ logistics system is high overall logistics costs due to inefficient organization of transportation, deterioration of rolling stock, underload of rolling stock, and also because of insufficient quality of logistics services.

To increase the efficiency of the functioning of the logistics system of MAZ, a number of proposals can be made:

- renewal of rolling stock;
- improving the quality of transport services;
- search for reverse loads for cars;
- rational organization of internal and external routes.

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IMPROVEMENT OF THE MANAGEMENT STRATEGY MATERIAL INVENTORIES AT INDUSTRIAL ENTERPRISE

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Analyzed the management system of material inventories in warehouses of an industrial enterprise. Are revealed the main problems that hamper effective management of inventories of material values, on the basis of which the proposed recommendations for improvement of their management strategy. Is determined the scientific novelty which consists in the use of a joint matrix of ABC- and XYZ-analysis, which links the grouping of material values to their importance in the production process and the selection of their management strategy.

The level of inventories and the costs of their storage should be optimal and ensure the uniform operation of the transport, production and warehouse systems of the enterprise. The material inventory management policy at the enterprise is aimed at solving the problems concerning what to order, when and in what volumes, where to place the inventories. The process of making decision on the management of material inventories at the enterprise involves the sequential solution of such problems as planning the demand for stocks for a certain period (usually per year), determining the total costs for inventory management for a given period, structuring and controlling stocks, regulating them, the size of the order and the time interval between orders, the choice of the optimal inventory management system.

The main method of inventory regulation is their rationing, i.e. the establishment of inventory norms for a certain period (quarter, year). The problem of inventory regulation is associated with a malfunction of the normal operation of the management system due to changes in the volume of consumption, delay or acceleration of delivery, incomplete delivery, delivery of an overstated volume, an error in accounting for the actual amount of the stock, leading to an increase or underestimation of the order size. These disturbing effects lead either to an inventory deficit or to a deficit in warehouse space. In the first case, it is necessary to regulate the level of the guarantee inventory, and in the second – the level of the maximum desired inventory. To calculate these parameters, the specialist must know the size or size of the optimal order [1; 2].

The objective of creating material inventories at the enterprise is to ensure the rhythmic functioning of the production process. The calculation of inventories at the enterprise is carried out by comparing the main indicators for their movement for the previous reporting periods, as well as taking into account the production plan for the coming year. Thus, the calculation of the optimal level of inventories is not carried out.

At the enterprise there is a department of management of warehouse stocks, which monitors the level of material inventories for maintenance of a continuous production process. However, a certain strategy and system of inventory management at the enterprise are not currently formed.

Having studied the theoretical aspects of the strategy of the management of material inventories at the enterprise, it is possible to single out the general features of an additional reserve strategy, in which the guarantee of needs is provided by creating an additional reserve of material values. At the same time, the enterprise does not have a specific methodology for calculating the reserve number of storage units in warehouses.

In its turn, the strategy of material inventories management should be based on the implementation of a specific management system and control over their condition. Control over the state of material inventories and the formation of an order at the enterprise is carried out periodically through the operational management system – after a certain period of time, an operative decision is made to "order" or "not to order". If you order, the question is how many units of material resources. This system works well in conditions where it is possible to foresee with sufficient confidence the size of the demand for material resources. Otherwise, the unexpectedly increased demand in the period between orders can lead the logistics system of the enterprise into a scarce state [3].

The development of measures to optimize the strategy of material inventories management in an enterprise must begin with a procedure for forecasting the demand for purchased material resources. Then, based on the obtained forecast value of demand, they can be differentiated into groups using the ABC-analysis and XYZ-analysis methods. To manage the material inventories of the obtained resource groups, it is necessary to choose an effective system for regulating (controlling) the level of inventories of the latter in the warehouses of the enterprise, to calculate and perform an analysis of its main parameters.

Finally, depending on the prevailing conditions on a particular market segment, one should choose one of the above strategies of material inventories management at an enterprise whose ultimate objective is the continuous provision of some kind of material resource. Realization of this objective is achieved by solving such primary tasks as calculating the size of the order, determining the time interval between orders, calculating and recording the current level of material inventories in warehouses of different levels, determining the size of the guarantee (insurance) stock, calculating the maximum (extreme) value of the stock, which is characteristic for an additional reserve strategy [4].

Analysis of the management system of material inventories in the enterprise activities allowed to distinguish the following two of its main problems:

1) the lack of uniformity in the names of material values, as a result of which it is impossible to accurately determine the consumption of a certain type of material values for a specific period of time, and accordingly, calculate the corresponding reserve norms;

2) the lack of a single optimal strategy and, accordingly, a system for material inventories management at the enterprise and the correct calculation of its parameters, taking into account unforeseen changes in the market.

In order to solve the above problems, we propose an effective chain of actions to improve the strategy for material inventories management in the activities of the enterprise, which is presented in the form of a tree of objectives.

Therefore, the improvement of the strategy for material inventories management should be carried out in the following sequence:

1. Systematization of items of inventories of material assets:
- introduction to the enterprise of a bureau of normative and reference information;
- creation of an expert group for the analysis of the existing nomenclature of material assets;
- development of a classifier and a directory of material assets.

2. Development of an effective inventory management strategy for inventories of material assets:
- grouping of material assets on the basis of drawing up a joint matrix of ABC- and XYZ-analysis;
- calculation of reserve norms of inventories and forecasting of demand for material values;
- selection of the inventory management system for each received group of inventory items;
- determination of the methodology for calculating the key parameters for each group of inventories material assets with regard to the selected management system: the calculation of the norms of inventories, the annual purchase demand, the margin of safety, the threshold level of inventories in the warehouse, the maximum desired level of inventories and the size of the order.

3. Implementation of a strategy for material inventories management in the operation of an enterprise.

The development of measures to improve the strategy for material inventories management at the enterprise must begin with the systematization of the names of inventories of material assets, then an effective strategy for managing them is developed. As a result, the process of implementing the developed strategy for managing inventories in the activities of the enterprise is carried out.

Therefore, it is necessary to select an effective inventory management system for the received groups of material resources in warehouses and to analyze its main parameters.

Depending on the prevailing conditions on this or that segment of the market, one should take into account that strategy of inventory management, the ultimate goal of which is the continuous supply of the enterprise with specific types of material resources [5].

The analysis of constraints to achieve the set objectives is given in the form of taking into account risks, uncertainty and safety of the implementation of the proposed measures to improve the strategy of material inventories management in the enterprise.

As a matter of recommendations, material inventories in the category "pressure gauges" are considered, management of which is recommended to be implemented on the basis of systems with a specified periodicity of replenishment of reserves to the established level and "minimum-maximum" depending on the particular group of manometers in accordance with the joint matrix ABC- and XYZ- analysis. The process of using the selected system of material inventories management includes calculating the maximum inventory value, which is typical for the additional reserve strategy. The guarantee of requirements is ensured by creating an additional reserve of material resources. The size of the additional reserve in our case corresponds to the size of the guarantee (insurance) inventory, which meets the enterprise's need for the necessary material resources in the event of an alleged delay in delivery.

Proposed measures to improve the strategy of material inventories management in terms of their impact on the final financial result will reduce logistics costs, but do not affect the volume of produced and sold products by the enterprise. The qualitative nature of the implementation of the proposed activities includes the introduction of changes in the organizational structure of enterprise management, as well as the development of a classifier and a directory of material assets, the responsibility for escorting them will be assigned to the bureau of normative and reference information.

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WORLD UNIVERSITY RANKINGS AS A METHOD OF ANALYSIS THE UNIVERSITY COMPETITIVENESS

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The article is devoted to the analysis of world rankings, where Polotsk State University is represented, and contains recommendations for increasing the competitive positions of PSU in the research rankings.

In modern conditions of management, competition is present not only in the production sphere, but also in the sphere of education. The entry of the Republic of Belarus into the Bologna Process obliges higher educational institutions of the country to compete not only in the domestic market but also in the world market of educational services through the effective use of all types of resources, which in its turn ensures the improvement of the quality of knowledge, skills, generally – the competence of graduates.

Recently in the Republic of Belarus there has been a fierce struggle between higher education institutions for potential applicants due to the reduction in their number and, as a result, the oversaturation of the educational services market. Education is an indicator of development in all civilized countries of the world and in fact, countries compete not only with goods and services, but they compete with their systems of social values and education systems.

To assess the competitiveness of universities use a variety of methods of economics and statistics, develop special tables that contain data on the educational institution and its main competitors. The analysis of these tables allows establishing the true position of the university in the market of educational services, to identify the key factors of success. Many universities based on these rankings study and take into account the achievements of competitors.

One way to assess competitiveness is ranking. These are the official rankings of the Ministry of Education of the Republic of Belarus and world rankings on the Internet.

As a rule, foreign applicants and their parents, when choosing a university, are guided by international rankings of universities. It should be noted that the first rankings were created for this target audience and only later they became used as management tools both inside the university and at the state level, and today they have become one of the most important tools of competition.

Under the ranking of the university's competitiveness, we will understand a general evaluation of strategically important parameters of its activity in the target segments of the activity markets, ensuring an adequate comparability of the effectiveness of this organization in comparison with the analogous parameters of competitive universities.

The effectiveness of increasing the competitiveness of universities is to achieve their status as a full participant in the world academic community. This, in its turn, implies the conformity of the scientific and educational activities of universities to the criteria of global ratings.

The most prestigious rankings of universities in the world are QS World University Rankings, The Times Higher Education World University Rankings (THE WUR), Academic Ranking of World Universities (ARWU), Ranking Web of Universities (Webometrics) [1, c. 10].

There are a lot of world rankings of universities, but not all Belarusian universities are represented in it, in particular Polotsk State University. Belarusian State University is represented in the largest number of world university rankings.

Despite this fact, there are two world university rankings that are popular and in which universities of the Republic of Belarus can be found.

The first and most popular ranking of Webometrics is calculated by the Cybermetrics group of the National Research Council in Spain. The university ranking is determined on the evaluation and content of university web sites, as well as the influence on the Internet. Ranking data are calculated twice a year.

Webometrics ranking criteria:

– presence – 10 % – the number of pages, including valuable files, indexed by the Google search engine hosted on the domain and all subdomains of the university;
– visibility – 50 % – number of unique external links to the pages of the site;
– openness – 10 % – data from Google Scholar Citations;
– excellence – 30 % – Scimago databases are used for a five-year period [2].

The easiest way to change the factors of presence and openness, which are determined on the basis of the number of indexed pages of university sites and available formatted documents.

The ranking of Webometrics among the classical universities of the Republic of Belarus is presented in Table 1 [3].

Table 1 – The ranking of Webometrics among the classical universities of the Republic of Belarus

University	The ranking among the regional universities of Belarus	National ranking	Global ranking
BSU	1	1	487
GrSU	2	4	3359
GSU	3	7	4323
PolesSU	4	10	5670
BrSU	5	11	5992
VSU	6	13	6298
PSU	*7*	*15*	*6903*
MSU	8	22	8777
BarSU	9	30	12537

The ranking of Webometrics among the regional universities of the Republic of Belarus is presented in Table 2 [3].

Table 2 – The ranking of Webometrics among the regional universities of the Republic of Belarus

University	The ranking among the regional universities of Belarus	National ranking	Global ranking
PolesSU	1	10	5670
PSU	*2*	*15*	*6903*
BarSU	3	30	12537
BSAA	4	31	12607
MSPU	5	43	14834

On the basis of Table 1, we can conclude that among the represented classical universities Polotsk State University ranks 7th place and gives way BSU, GrSU, GSU, PolesSU, BrSU and VSU. The main aim of Webometrics is to motivate universities to publish their scientific and educational materials in public. Webometrics is based on the analysis of the university's representation on the Internet and indirectly allows evaluating the educational and research achievements of the university Among all universities of the Republic of Belarus, according to the Webometrics, PSU takes 15th place and 6903d place in the world.

The second world ranking, in which the universities of the Republic of Belarus are represented and there is a separate ranking of Belarusian universities, is the UniRank. This ranking is determined by the popularity and attendance of universities and colleges websites in 200 countries.

The ranking methodology is constantly changing. This year, in addition to 4 established indicators: Moz Domain Authority, Alexa Global Rank, Majestic Referring Subnets and Majestic Trust Flow, a new indicator was added – Similar Web Global Rank, which takes into account the number of unique visitors and page views of the university website [2]. UniRank among the classical universities of the Republic of Belarus is presented in Table 3 [4].

Table 3 – UniRank among the classical universities of the Republic of Belarus

University	The ranking among the classical universities of Belarus	National ranking
BSU	1	1
GrSU	2	2
GSU	9	3
PolesSU	10	4
VSU	12	5
PSU	*13*	*6*
BarSU	17	7
BrSU	19	8
MSU	32	9

UniRank among the classical universities of the Republic of Belarus is presented in Table 4 [4].

Table 4 – UniRank among the regional universities of the Republic of Belarus

University	The ranking among the regional universities of Belarus	National ranking
ПолесГУ	10	1
ПГУ	*13*	*2*
БарГУ	17	3
БГСХА	27	4
МГПУ	34	5

In Table 3, you can see that in UniRank Polotsk State University gives way BSU, GrSU, GSU and PoleSU, which means that the site of Polotsk State University is less popular than the sites of the above-mentioned universities. These rankings are calculated from the data presented on the Internet. However, there are many rankings that evaluate a variety of indicators, including the academic reputation of the university, the index of citations of scientific works, the number of foreign students and employees, and many other indicators, depending on the purposes of presenting the world ranking. If Belarusian State University is included in the world rankings, without occupying a leading position there, then other classical universities are not represented in any of the world rankings.

Based on the analysis of Webometrics, it is necessary to work on the site to improve the indicators and, therefore, to improve the places in rankings. In order to improve the "Visibility" indicator, it is necessary to take the following measures.

1. Improve the quality of the content of the site: the selection and inclusion of keywords on each page of the site, the expansion of analytical material on the scientific, innovative, educational and other projects of the university.

2. Registration in catalogs of universities, including international ones, to participate in scientific conferences, Internet forums, referring to the material posted on the university's website. Publications of staff and teachers of the university should contain links to materials and resources of the university, both in the content and in the list of literature.

3. Presence of the multilanguage version of the site. For PSU it is important to constantly improve the English and Chinese versions of the site, which contain about 30% of the Russian version (according to Webometrics recommendations), so it is important not only to translate information texts of the main sections into foreign languages, but also to stimulate the English-language and Chinese publications of university staff. In foreign languages, not only the main page and the main sections of the site should be presented, but also sections devoted to research work, scientific publications, necessarily with attached files in formats .pdf, .doc, .docx., .ppt, .pptx. Update information in a foreign language, including news, announcements, events.

4. Preference for authoritative resources, from which there is a link to the site.

5. If university staff participate in professional Internet-forums, it is necessary to refer to the content of the university's website. The content should contain relevant information, as a rule, analytical, scientific articles, educational materials in the public domain.

In order to increase the "Presence" indicator, it is necessary to carry out a number of actions.

1. Increase the number of pages of the university's website with unique content due to the expansion of the presence on the site of units, projects, directions, conferences, events and development versions of the site in other languages.

2. Use of the data of the corporate information environment of the university as data that can be automatically published on the sites of departments and faculties. Information on such pages is always relevant, and their creation does not require additional efforts on the part from developers. The content management system has the ability to display the same object as a different page if access to it was performed from different contexts. This allows you to create multiple views of the same object and generate several pages. Examples of such objects on the site of the university can be: scientific publications, disciplines, curricula, teaching materials, scientific projects, employees, graduate students, students and much more.

To improve the indicator "Scientific excellence" it is necessary to increase the publication activity of scientific employees of the University in journals of international databases, first of all, Scopus and Web of Science.

To improve the "Openness" indicator, it is necessary to perform a number of tasks [5, p. 9].

1. Opening of scientific publications and dissertations of staff, teaching materials of teachers, materials of journals published at the university, materials of conferences held at the university, graduate and dissertational works of students and undergraduates, where these materials are presented in formats .pdf, .doc, .docx., .ppt, .pptx.
2. Publications of normative materials on the university website in attached files.

Polotsk State University needs to pay more attention to assessing its own web resources, to develop a program to increase the visibility and accessibility of results of its intellectual and academic activities to the world community, to develop a clear and accessible strategy to increase its contribution to the development of social and scientific progress.

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UDC 657.47.07

ANALYSIS OF THE BASIC METHODS OF ACCOUNTING AND COST CONTROL IN CONSTRUCTION

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The article describes the main tools of accounting and costs control in the construction industry. The author considered the classification of cost accounting methods used in the construction organization. Traditional and non-traditional methods, models of organization of accounting and control of costs are considered.

Construction is an important sector of the national economy. The share of the construction industry in the total GDP of the Republic of Belarus is 5.7% [1]. The importance of the development of the construction complex for the economy is conditioned by its participation in the creation of fixed assets for other branches and close interaction with other branches, such as industry, engineering and others.

In modern conditions, for the effective management of a construction organization, the correctly formulated development strategy becomes especially relevant. It should be based on a system of management accounting and analysis and provide competitive advantages. To form such a strategy, construction organizations need operational information. Therefore, to manage the costs and financial results of the construction organization and to make reasonable management decisions, economic information based on credentials is of great importance.

The management of costs in construction is characterized by a number of specific methods and features, primarily related to the specifics of the organization and technology of activities in construction. Classification of basic methods of accounting for construction costs is shown in figure 1 [2].

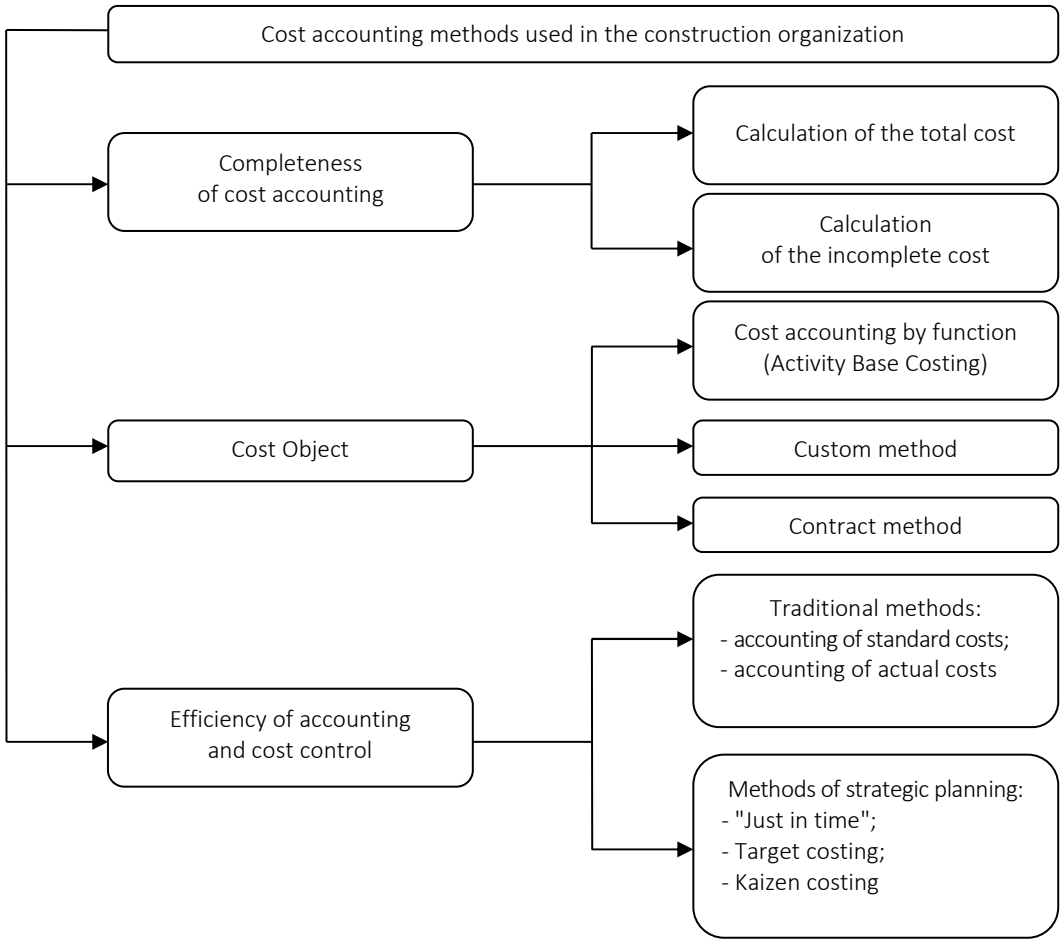

Fig. 1. Main methods of accounting for construction costs

Traditional for the Belarusian accounting is the calculation of the total cost, which includes all the costs of the enterprise associated with the production and sale of products, regardless of the division into permanent and variable, direct and indirect. Costs that cannot be directly attributed to products (general production, general business expenses) are first distributed at the responsibility centers, and then transferred to the cost of production in proportion to the chosen distribution base. One of the advantages of this method is that it allows you to get an idea of all the costs that the organization incurs in connection with the production and sale of one product. Among the shortcomings of the method of full cost accounting, there is the impossibility of efficient and timely management of prime cost, which is due to the peculiarity of determining the actual cost price only at the end of the month, as well as the impossibility of managing the cost of production due to changes in the volume of output [3].

One of the alternatives to the traditional domestic approach to calculation is the approach when incomplete, limited cost is planned and taken into account by cost carriers. This cost price can include only direct costs. It can be calculated on the basis of only production costs, i.e. costs directly related to manufacturing of products (works, services), even if they are indirect. In each case, the completeness of the inclusion of costs in the cost price is different. However, it is common for this approach that some types of costs related to the production and sale of products are not included in the calculation but are recovered by the total amount from the proceeds. This is the essence of the system of accounting for incomplete production costs.

One of the modifications of this system is the "direct costing" system. Its essence lies in the fact that the cost price is taken into account and planned only in a part of the variable costs, i.e. only variable costs are distributed over cost carriers. The rest of the costs (fixed costs) are collected on a separate account, not included in the cost estimate and periodically written off to financial results, i.e. are taken into account in the calculation of profits and losses for the reporting period. Reserves, leftovers of finished products in warehouses and work in progress, are also estimated as variable costs [4].

At the same time, studies of the "direct costing" system made it possible to identify the following shortcomings:

1. There are difficulties in dividing expenses into fixed and variable, since there are not so many purely constant or purely variable expenses. In general, costs are semi-variable, they need to be divided into a constant and variable component, and any distribution is relatively arbitrary. In addition, under different conditions, the same costs can behave differently.

2. Direct costing does not give an answer to the question how much the produced product costs and what its full cost price is. Therefore, additional distribution of fixed costs is required in cases where it is necessary to know the full cost of finished goods or work in process.

3. Keeping records of the cost of the reduced nomenclature of articles does not meet the requirements of domestic accounting, one of the main tasks of which until recently was the compilation of accurate calculations.

4. In prices set for an enterprise's products, it is necessary to cover all costs of the enterprise, i.e. to perform additional calculations [3].

Custom and contract methods of cost accounting are also traditional for the construction industry. The main condition for the ordering method of calculating is the possibility to distinguish the individuality of the manufacture of a unique product or work to be performed and to obtain information not about its average, but about its individual cost price.

The specifics of the application of the custom calculation method in the construction organization are as follows:

- accumulation of data on all costs incurred and referring them to certain types of construction work;
- accumulation of costs for each completed stage, and not for a period of time.

Simultaneously with custom and contract methods during the construction phase, it is relevant to apply the accounting of costs at their origin. This is due to the fact that costs are better controlled directly when consuming resources, i.e. in the construction and maintenance process. In this regard, there were such objects of formation and accounting of costs as the origin of costs and cost centers and responsibility centers.

Along with traditional systems of cost accounting, in international practice there is an outspread of the activity-based cost management system (ACS) when indirect costs and expenses for auxiliary (providing) activities and for the production of individual products are tracked. The ABC system refers the costs of indirect and auxiliary resources to the types of activity in which they participate, and then to the products. Correlating the costs of activities with the objects of costs, you can identify profitable and unprofitable products, inefficient activities and unused capacity.

The ABC method is designed as an alternative to traditional financial approaches. Unlike traditional financial approaches, the ABC method:

– provides information in a form understandable to the personnel of the enterprise directly involved in the business process;

– allocates overheads in accordance with a detailed calculation of resources, the presentation of processes and their impact on cost, but not on the basis of direct costs or accounting for the total volume of products.

ABC-method allows you to identify possible ways to improve the cost parameters. The purpose of creating the ABC model is to improve the functioning of companies in terms of cost, labor intensity and productivity. Calculations on ABC-model allow receiving the big volume of ABC-information for the decision-making process.

However, ABC is a strategic costing system and cannot play the role of operational control, as it does not provide constant feedback to the managers responsible for the costs and expenses incurred. [5]

Regardless of the number of accounting objects, costs can be investigated by two methods: the actual method and the standard cost accounting method. Accounting of actual costs is a method of sequential accumulation of data on actually incurred costs without reflecting the data on their value according to the current norms. The main drawback of this method is that it is impossible to promptly signalize to the administration about unforeseen expenditures of labor and materials that could be eliminated by taking emergency measures. The normative method of accounting presupposes the preliminary determination of the standard costs for operations, processes, and objects with the detection of deviations from the standard costs during the production. Actual costs are determined by the algebraic addition of costs to norms and deviations from them. Using this method, the accountant deals with the standard cost and deviations from it. Both methods are aimed at identifying and reflecting, the actual cost of production in the final analysis, but the first method does it through direct accounting of costs, and the second - through deviations from the norms. [4]

The Japanese system "Just in time" has also become widespread. The essence of this system is the refusal to form stocks in warehouses. Instead, this system is aimed at increasing the efficiency of work with counterparties and at preventing the loss of time.

Target costing is an integral management concept that supports a cost-cutting strategy and implements the planning functions for the production of new products, controlling costs and calculating the target cost of the product. The system provides for the calculation of the cost of the product from a pre-established sales price. The traditional pricing formula in this concept was transformed into equality:

Price - Profit = Cost.

The target cost reduction is set in the following sequence:

1) determination of the possible price for the sale of the product (service) through marketing research;

2) calculation of the target cost of products (services), for which the value of the profit that the firm wants is subtracted from the possible sale price of the product;

3) comparison of the target and estimated cost of the product (service) to determine the amount of necessary (targeted) cost reduction;

4) product (service) redesign, improvements to the production process for targeted cost reduction [6].

A huge role in this system plays market monitoring. There may be a situation of exceeding the actual cost of works and services over the target already in the process of work.

The Japanese production management system “kaizen costing” is used in parallel with the system of target costing. The method is designed to reduce in the production process the difference between the estimated and target costs determined by targeting at the design stage. The joint use of kaizen costing and target costing allows achieving a competitive advantage by obtaining a lower cost level comparing to competitors and by the possibility to choose a convenient pricing policy to retain and seize the market. [7] At the same time, each of these systems is designed to solve specific problems, has its own peculiarities, which, in the context of a certain type of construction work, can act as advantages and disadvantages, so that the question of integration of these two systems seems to be posed correctly.

When choosing a particular tool for cost managing, the preference should be given to the one that maximally corresponds to the specifics of the organization's activities. Cost management methods are a means to achieve the strategic and operational goals of the organization, namely, to reduce costs, which is one of their priorities in the enterprise management system. Moreover, it is logical to assume that the use of these cost

accounting methods should not be point-based, but complex, i.e. it is necessary to provide a combination of different tools.

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UDC 330.342

INTELLECTUAL PROFILE OF THE REPUBLIC OF BELARUS AND ITS POTENTIAL IN THE GLOBAL COMPETITIVENESS RATING

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The article theoretically substantiates the importance of intellectual labor to improve the competitiveness of the economic system of the country, identifies practical problems of the Republic of Belarus in this direction, offers measures to solve them.

The global Competitiveness index (The Global Competitiveness Index) is a global study that accompanies its ranking of countries in terms of economic competitiveness. It is based on the methodology of the world economic forum, which defines national competitiveness as the ability of the country and its institutions to ensure stable rates of economic growth, which would be stable in the medium term. Representatives of the world economic forum point out that the competitiveness of national economies is determined by numerous and very diverse factors. The study presents two indices on the basis of which country rankings are compiled: the global Competitiveness index (GCI) and the business competitiveness index (BCI).

The global competitiveness index is made up of 113 variables that characterize in detail the competitiveness of the countries of the world at different levels of economic development [1].

This index shows how favorable the climate in the Republic of Belarus is for investment and development of economic relations, which will contribute to increasing productivity, attracting highly qualified personnel, as well as the introduction of innovations.

According to the global competitiveness index, the Republic of Belarus in 2015-2016 occupied 87th place, with every year the performance of the country improved and in 2016-2017 Belarus was 84. [2].

All variables of the global competition index are combined into 12 benchmarks that determine national competitiveness, which include such important indicators as higher education, vocational training and labour market efficiency [1].

In order to increase its rating and improve the performance of Belarus, it is necessary to introduce innovations, thereby improving the economic situation and the climate to attract investment both domestic and foreign, as well as to develop the intellectual component of the country.

In the Republic of Belarus, the processes of optimization of the number of labor resources at all levels of the economy, taking into account the proportions of the distribution of labor resources by spheres of socially useful activity, compliance of the professional and qualification structure of labor resources with the structure of jobs become particularly relevant. In accordance with the "Basic provisions of the national strategy for sustainable socio-economic development of the Republic of Belarus for the period up to 2020" (approved By the national Commission for sustainable development of the Republic of Belarus (Protocol № 11/15 PR of may 6, 2004) and the Presidium of the CM of the Republic of Belarus (Protocol № 25 of June 22, 2004), the first stage (until 2020) provides to increase the competitiveness of the national economy, primarily by improving the use of factorial conditions (natural and labor resources, scientific, technical and innovative potentials)., production and social infrastructure) [3].

The intellectual profile in the Republic of Belarus occupies an important place. In order to assess the dynamics of the use of intellectual labor of the country it is necessary to consider the performance of organizations that are engaged in scientific activities (table. 1).

Based on the data presented in table 1, it appears that the number of organizations engaged in research and development decreased in 2016 compared to 2013, therefore, the number of employees employed in this field. But with these indicators increased internal costs and the amount of scientific and technical work.

Thus, the effect of increasing the cost of education can be reduced due to the inefficiency of the labor market, other shortcomings of the institutional structure and, as a consequence, the lack of opportunities for graduates to be appropriately employed [1].

As a priority the development of a country is determined by the technological development of sectors of the economy and its restructuring through the creation of high-tech industries, is able to offer fundamentally new types of goods (services).

The main task is related to the creation of a competitive knowledge-based, resource-saving economy in the world market by identifying promising "technological corridors" for the economy: it is necessary to accelerate the construction of an effective national innovation system, to make maximum use of the existing conditions for the integration of science, education, production, formation of market incentives to increase the innovative activity of business entities and the innovation market.

Table 1 – Basic indicators of organizations activity engaged in research and development.

	2013	2014	2015	2016
Number of organizations that carried out research and development, units	482	457	439	431
The list number of the workers who were carrying out research and development, the person	28937	27208	26153	25942
Including those who have a degree:				
doctor of science	704	672	649	631
candidate of Sciences	2974	2896	2844	2841
including researchers	18353	17372	16953	16879
Internal costs for research and development, billion rubles.	4372,3	4073,1	4495,4	475,3[3)]
The volume of scientific and technical works performed, billion rubles.	5651,3	4994,1	5443,2	596,6[3)]

Source: [4].

In order to overcome the negative trends in the development of science and technology in recent years, it is necessary to ensure faster growth of the human resources potential of science, a significant increase in funding for research and development from the budget and own funds of organizations [5].

In order to improve its position and strengthen its position, the Republic of Belarus is developing programs for the development and development of the country. Such programs include: the program of innovative development of the Republic of Belarus for 2016-2020, "the Main provisions of the national strategy for sustainable socio-economic development of the Republic of Belarus for the period up to 2020", etc.

Proposals to address the problem. In order to implement the concepts of state development, it is necessary to eliminate contradictions in the implementation of state programs and strategies aimed at the development of the Republic of Belarus.

We believe that in order to improve the competitiveness of the Republic of Belarus, the state needs to improve the legal framework, thereby improving the investment climate of the country. It is also necessary to pay due attention to the field of education: training of highly qualified specialists focused not only on theoretical knowledge, but also, to a greater extent, on practical.

In our view, more attention should be paid to the role of innovation and education, as they are important elements of the modern economy. Each highly developed country understands that without innovations and highly qualified personnel it is not possible to produce goods (services). Using all the opportunities associated with the introduction of innovations, the company will be able not only to achieve

better product quality, but also to increase the export of their goods, thereby increasing both their well-being and the welfare of the country.

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Economics

UDC 33

FEATURES OF THE FORMATION OF THE KNOWLEDGE ECONOMY IN MODERN SOCIETY

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At present, industrially progressive countries are steadily moving away from the orientation toward industrial development and are taking a course towards creating a knowledge-based economy. A new, post-industrial stage of the society development and the corresponding type of economy is increasingly focusing on information, high technology, innovation and a person with their knowledge and skill.

Such a transition of the world economy to a new qualitative state is directly related to the growing role of fundamental theoretical knowledge, the development of high-tech industries, the increase in the share of services, the increasing influence of information and communication technologies: cellular and satellite communications, digital television and radio, the global Internet, from a "material" economy based on physical labor, mechanization and automation, to an "intellectual" economy characterized by a significant role of human and social capital, innovation, information, creative work: creative activity in the fields of science and education, corporate research and development, programming, marketing and advertising, design, entertainment, etc., institutions and intangible assets in general, is regarded as a global structural shift that, covering all spheres and branches of the industrial economy, changes its scale, dynamics and internal content [2].

In 2004, the World Bank Group developed the Knowledge Economy Index. It is a complex indicator characterizing the level of a knowledge-based economy development in countries and regions of the world. This indicator was developed in the framework of the special program Knowledge for Development (K4D) to assess the ability of countries to create, receive and disseminate knowledge. The calculation of the Index is based on the "Methodology of Knowledge Assessment", proposed by the World Bank, which includes a complex of 109 structural and qualitative indicators, compiled into four main groups:

- Index of Economic and Institutional Regime;
- Education Index;
- Innovation Index;
- Index of Information and Communication Technologies [3].

Belarus actively participates in the formation of the knowledge economy. The Republic of Belarus joins the Bologna process to build a common European system of higher education. The Bologna Process is a rapprochement and harmonization of the European continent countries educational systems. Its goal is to make the sphere competitive and attractive, and also to create an opportunity for student mobility and further employment of graduates. Financial and economic cooperation through joint financing of programs, projects, creation of special after-hours funds, unification of taxation standards, preferential lending for innovative projects and enterprises, decent wages of personnel in the knowledge economy are also being developed very successfully. The state supports the development of innovative projects and gives them a certain assessment. Joint training, cooperation and work in the innovative and educational spheres, in the absence of interregional and national problems in the country allows to attract specialists with new, innovative, market-oriented thinking and outlook [4].

The knowledge economy is primarily characterized by a steady increase in the share of R & D in the total expenditures of the state and private firms, as well as a steady increase in the capitalization of highly scientific firms. The tasks of building the knowledge economy, the implementation of the State Program of Innovative Development of the Republic of Belarus for 2016-2020 put forwards new problems that are needed to be solved by the country's educational institutions. The goal of the State Program is to ensure the qualitative growth and competitiveness of the national economy with a concentration of resources on the formation of its high-tech sectors based on the production of V and VI technological structures. The Governmental Program of Action for the coming five-year period provides Belarus to join the leading countries that are characterized by high innovation development and competitiveness in international ratings [5].

Education is an important element of the knowledge economy rating, which is compiled by the World Bank. Having analyzed the data on the Knowledge Economy Index, the knowledge index, economic incentives and institutional regime, innovation, education, ICT for the period from 1995 to 2012 we came to the conclusion

that the rating of Belarus on the formation and improvement of the state of the knowledge economy is developing less dynamically. Previously, Belarus ranked 55th in the rating, at the time of 2012 -59 [6].

The state plays a big role in the development of the knowledge economy. The quality of education directly depends on the availability of all types of education and retraining of staff, and whether enough attention is paid to financing this field. We analyzed the data on financing from the state budget of education of the Republic of Belarus for the year 2016. It can be seen from the data that the country pays little attention to the financing of education. The cost is less than 1%. The internal costs of scientific research in 2016 amount to 0.5% of GDP [7].

We studied the index of education level in Belarus. The index measures the country's achievements in terms of the achieved level of education of its population by two main indicators:

– The adult literacy index (2/3 of the weight);

– Index of the cumulative share of students receiving primary, secondary and higher education (1/3 of the weight).

Belarus ranks 26th with an indicator of 0.834 in the world countries ranking according to the level of education for 2016. It is generally accepted that developed countries should have a minimum score of 0.8[8].

The innovative development of the country, proclaimed in strategic policy documents, presupposes the formation of innovative market systems, clusters, enterprises aimed at introducing innovations that ensure the growth of production efficiency and competitiveness of companies. Competition, being a determining factor of innovative activity, forces enterprises and companies to finance scientific research and introduce innovations. Belarusian industry still has a number of limiting factors in the form of existing conditions for managing enterprises, investing, as a rule, in the modernization and expansion of production capacities. In addition, the introduction of revolutionary innovations and new products to the market is associated with significant risks and requires an effective mechanism for interaction throughout the innovation cycle: science - applied research - implementation in production - market implementation. New companies are potentially more inclined to innovate activities, and for the successful operation of small enterprises in a market competitive environment a business idea must contain innovations.

One of the main factors hampering the innovative development of the Belarusian economy are:

1) weak entrepreneurial activity;

2) low specific weight of small and medium-sized enterprises;

3) insufficient effectiveness of state measures to stimulate innovation [4].

In the Republic of Belarus it is necessary to develop innovative companies, especially small innovative enterprises as a link connecting the scientific sphere and production and acting as a consumer of scientific development and commercialization.

The main task of the current economic policy of Belarus should be a transition from economic growth, oriented toward cheap labor and capital, to growth provided by high productivity and innovation. This requires investments in infrastructure and the formation of the creation of clear, competent conditions for the full development of innovative processes, creation of incentives for the full participation of the production sector in the development of science, and, most importantly transfer of research results from science to production [9].

Belarus needs a systemic modernization of the economy based on long-term scientific and technical policy. It should be based on a thorough analysis of the reasons for the lack of development of the technological structure, the mechanism for activating investment and innovation activities, and focus on the trajectory of sustainable economic growth, primarily due to the innovative component [10].

By the Decree of the President of the Republic of Belarus No. 31 dated 31 January 2017, the State Program of Innovative Development of the Republic of Belarus for 2016-2020 was approved.

The state program is aimed at achieving the priorities of the social and economic development of the Republic of Belarus for 2016-2020 in the field of effective investments and accelerated development of innovative sectors of the economy and is the main document ensuring the implementation of the most important areas of the state innovation policy [11].

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LOGISTICS AUDIT OF AN ORGANIZATION

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Logistics audit as the instrument of efficiency increase of enterprise activity is an integral part of an enterprise for definition of changes in the general structure of material, informational streams and inventory itemsmovement. Development and approach realization to the logistics audit of the enterprise will allow to optimize stream processes occurring in it.

The requirements of customers in the field of logistics are constantly growing. There are new technologies in the organization of business. Consequently, today many companies are forced to rethink their logistics strategy in order to determine the reserves for competition in this situation, the logist faces the following important questions:

1. How many distribution centers do they need and where should they be located?
2. What should be the ratio between the volume of stocks and the level of service for each center?
3.What types of vehicles should be used and how to choose routes?
4. Should the distribution centers be equipped with new technologies of cargo handling?

In order to answer these questions, it is necessary to conduct a logistics audit of the company.

There are many definitions of the concept of logistics audit, below are some of them, the most common:

Logistic audit - an independent assessment by the independent party of the entire supply chain of the company [1].

Logistic audit - a comprehensive audit of the performance of logistic subsystems of the enterprise [3].

Audit (verification) is a systematic, independent and documented process of obtaining audit evidence and objective assessment to determine the extent to which the agreed audit criteria are met [2].

Classical (financial) audit is a type of activity that consists in the collection and evaluation of facts relating to the functioning and position of an economic entity carried out by a competent independent person who issues a conclusion on compliance with accepted standards and rules [3].

These definitions are correct, but from our point of view, they are insufficiently complete and accurate, therefore we offer our own definition:

Logistic audit is a system process of obtaining and evaluating objective data on economic activities and events, on the operation of the logistics chain, establishing the level of compliance of the data obtained with the established criterion and presenting the results to interested users.

Table 1 – Goals and objectives of logistics audit

Goal of logistics audit	Objectives of logistics audit
Providing a detailed objective assessment of the state of the company's logistics system and its individual elements (supply, transportation, warehousing, information flows, accounting, etc.)	1. Identifying the strengths and weaknesses of the logistics system of an enterprise 2. Determination of positive and negative trends 3. Identification of opportunities for development and optimization of activities 4. Clarifying cases of inefficient use of resources 5. Assessment of the level of competitiveness of the enterprise's products (services)

As logistics systems of different organizations differ, logistics audit develops individual programs. It can be focused on any kind of management of distribution and warehousing, labor, resources, transportation, supply chain management, logistics function management, accounting and analysis of logistics data, or it can inspect all operational activities within the supply chain. In table 2 the sequence of logistics audit is presented.

Table 2 – The sequence of logistics audit

Stages	Content
1 Previous familiarization with the logistics service	Inspection of operational activities and interviewing of responsible employees in the program of logistics audit.
2. Correlation of logistics strategies with general strategies of the company	2.1 Evaluation of the conformity of logistics strategies with the company's general strategies and the definition of existing parameters and metrics of the logistic function. 2.2 Localization of logistics functions in the structure of the company, assessment of the relationship of related units in the supply chain. 2.3 Measuring the performance indicators of the main functional areas of the logistics system. 2.4 Development of a proposal for the introduction of auditors in the management of the company's logistics system
3.Conducting logistics audit	3.1 Management of operations in the part determined by the Program on conducting a logistics audit. 3.2 Formation, implementation of the logistic function measurement system. 3.3 Information support of logistics processes - construction of a system for operational monitoring. 3.4 Collection and analysis of logistic data, management of internal and external documents. 3.5 Structuring of relations between departments, establishment of information relationships. 3.6 Analysis of current activities and identification of potential for improvement. 3.7 Introduction of minor evolutionary improvements.
4. Audit report	4.1 Analysis of the logistics function of the company and a report on the work of auditors 4.2 A detailed analysis of the main sources of hidden costs that can be reduced by changing processes and technologies 4.3 Development of a project for improving the logistics function, calculating the effectiveness of investment or outsourcing
5. Performing improvements	Reengineering of logistics business processes. Training. Initial support and adaptation of personnel to changes.
6. Audit of implemented improvements	Carrying out a second audit to identify bottlenecks and correct implementation of the measures recommended by specialists.

Table 3 – Indicators for the assessment of the logistics system of the enterprise in the areas of logistics

Area of logistics	Indicators
1	2
Transport logistics	Total duration of one logistics cycle Productivity of the logistics cycle Quality of service The magnitude of the irrational mileage, idle time Efficiency of vehicles use Efficiency of using cargo space
Warehouse logistics	Warehouse capacity Contents of 1 m2 warehouse per month Cost of processing 1 ton of marketable products that has arrived at the warehouse during a month Rhythm of warehouse processes and operations Sufficient and effective use of warehouse equipment Sufficiency and efficiency of organization of work of warehouse staff Planning of receipts and shipments of marketable products from the warehouses of the enterprise

Continued

1	2
istribution logistics	Efficiency of processing orders of customers for the supply of commercial products Organization of rational shipment Control over the performance of transportation and delivery management Inventory management Term and quality of preparation of marketable products for distribution Number of orders completed per unit of time Focus on the consumer market
Purchasing logistics	Reliability of relations with suppliers of raw materials Optimality of the size of insurance stocks Time of the procurement cycle Degree of structuring of suppliers Availability of a cost and purchase cost analysis system The correspondence between the quantity of supplies and the need for them Rhythmical supply
Information logistics	Evaluation of methods for calculating KPIs Degree of structuring of data flows accompanying the material flow Presence of a unified corporate information system Presence of discontinuities in information flows Provision of employees with operational information that contributes to an effective work process Information and communication reliability Operativeness of obtaining information
Production logistics	Efficiency of use of current assets Time of production-technological cycle Volume of loss of resources in the production process Degree of technological flexibility Efficiency of use of production areas Share of auxiliary workers Level of coordination of production plans with sales and procurement plans
Financial logistics	Coefficient of current liquidity Provision of own circulating assets Assurance of financial liabilities by assets Period of turnover of circulating assets Rationality of the formation of financial flows Efficiency of investments use Degree of financial independence

The developed system of criteria for assessing the logistics of the company allows you to quickly analyze logistics processes and create the most optimal logistics strategy in order to minimize costs and ensure uninterrupted supply, correctly and accurately calculate the necessary inventory, calculate the optimal area of storage space and more.

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MARKETING COMMUNICATION AS A PROMOTION TOOL IN MODERN BUSINESS SPORT ENVIRONMENT

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The article is devoted to the problem of modern marketing tool usage in the professional sport industry. The author sees the rapidly developing markets of international communications products (services) as different implementation segements. Integrated relationship with many sectors of international economy and possibilities of a contemporary sport industry are also closely observed in the article. The author analyses the current trends and characteristics of marketing communications in professional sport. Special attention is paid to the role of modern information technologies in the system of marketing communications, including the industry of professional sport.

The world economic science has long attempted to transform professional sports into one of the most profitable businesses. Thanks to the joint efforts of scientists and researchers from many countries around the world specializing in management, marketing, financial and economic aspects of the theory and practice of professional sports, the whole complex of knowledge was synthesized to form the fundamental foundations of the formation of such a modern and independent science as the Economics of professional sport.

Effective sport industry [2, 3] is intended to solve not only commercial purposes, but also to complete important social tasks: stimulation and formation of a healthy lifestyle, creation of conditions for personal social growth and also development of communications.

Professional sport has a great importance in strengthening international ties and the image formation of the country what makes it one of the most important means of communication [1, p. 134]. Every day Belarusian professional athletes, coaches, judges and main functionaries meet with representatives of other countries, hold international competitions, sign contracts, make contacts with investors, etc.

In the field of professional sport, it is reasonable to distinguish between rapidly developing markets of the international communication goods (products, services) according to their segment attribution:

– engineering sport (manufacturing of sport equipment, clothing, etc.);

– mass-sporting and health improvement services (the services referring to physical improvement and maintenance of national health high level);

– media rights for sport events broadcasting and sport media (the market of commercial rights for purchasing and sale of sporting events broadcasting);

– transfer (buy-sell, rent of professional athletes);

– commercial sport events (Olympic games, club tournaments, various commercial events, memorials, etc.);

– sport marketing and sponsorship (advertising and brand promotion of professional sport organizations and their athletes, search for potential sponsors, consumers using modern information technologies and tools);

– educational and scientific services in the field of professional sport (focused on numerous educational institutions providing services for training, retraining and advanced training in the field of professional sport as well as scientific support of the industry).

Taking into account the above mentioned markets of sporting goods (products, services) according to their segment attribution, it can be noted that the professional sport industry is in close integrated relationships with many sectors of the international economy. The formation of a full-fledged product in the field of professional sport is carried out on the basis of the enterprises (organizations) synthesis of various sectors of the international economy. These interrelationships are aimed at qualitative satisfaction of consumer demand at the national and international level.

The field of communication in professional sport covers such a range of issues as the regulation of relations between professional sport organizations and international structures or potential sponsors, work with the media, analysis of the prospects for the promotion of certain types of professional sport activities, and marketing communications of sporting events and products, etc.The above range of topical issues related to the field of intercultural communications states that for the professional sports industry today this area is of significant importance.

Modern opportunities of communication in the market of professional sport expand their interactive tools of marketing communications in order to attract potential consumers. Using these tools, managers of

professional sport organizations can make qualitative changes in the business processes of relations with consumers (fans) and investors (sponsors).

Nowadays, modern information technologies the scientific research of which is always topical in the promising fields of science such as Internet marketing and resources for its modeling have been globally applied.

The evolution of market relations in the context of internationalization requires the development and use of modern marketing technologies in the service sector, which in its turn will fundamentally expand the ideology of economic structure management. The mechanisms and capabilities of Internet resources apply to many elements of the marketing system, such as product policy, product sales and marketing communications. The specifics of the Internet as a marketing tool opened new prospects for the products promotion in order to increase the potential targeted audience, which allowed to communicate with it directly. Under the promotion we usually understand a full range of mechanisms that firstly aim at potentially contact audience number increase and in the end at increase of end users number.

Reduction of marketing costs is aimed at obtaining an attractive price value of the product for consumers, in this regard, with the increase in the number of potential consumers, profit has a high growth dynamics. This effect can be achieved through Internet marketing aimed at the target supply of a segmented group of consumers. The technology of product promotion in this case is based on the demonstration of information to potential consumers in a convenient form and format. Properly conducted segmentation, the appropriate speed and form of submission of information, as well as the quality of contact with potential consumers will directly contribute to the positive dynamics of investments return.

The most important thing professional sport marketing is the increase in the number of potential consumers (fans) and the expansion of the industry market, in order to preserve the valuable sport subjects in the developing globalization, in this regard, it is necessary to find solutions to expand the consumer audience and the industry market in the course of sport integration. These days for managers to search for effective marketing tool in the professional sport industry a creative approach should be applied. The management of professional sport clubs (PSC) should have certain skills which will help them to constructively produce a fine product from a sporting event, correctly positioning and promoting it on the market for the realization of commercial rights and attracting potential consumers (fans). For managers of different PSC strategic investment with the use of communication technologies is a preffered skill.

A modern concept of marketing in professional sport is aimed at innovation of high-quality and freely integrated technologies in communication processes among the main functionaries of the industry. As you know, professional sport belongs to the socio-economic sphere, where the main task is to reproduce the national human capital.

Today, when all the constituent elements of the professional sport market have a clear formation, the connection between these elements is much less expressed or not evident at all. Modern communication processes serve as the basis for the solution of such commercial and marketing tasks, but if their development is low there are serious problems in the promotion of PSC among the main functionaries of the industry of professional sport.

PSC, including other organizations (enterprises), are involved in communication processes. The attention of sponsors, support from the consumer audience and potential investors can be gained mainly through the promotion of PSC with the help of tools and concepts of Internet marketing.

In order to improve the efficiency of communication technologies application in the market economy conditions, the most relevant development of marketing paradigm of professional sports organizations based on modern Internet technologies, development and definition of scientifically based sports marketing model for optimal functioning and promotion of sports products seemes to be better attributed.

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DEVELOPMENT OF LOGISTIC SERVICES IN PL CLASSIFICATION

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It is shown that in the present time 3PL and 4PL level are engaged in the solution of a wide range of questions concerning logistic business processes of all chain of deliveries. Thereby the industrial and trading companies have an opportunity to transfer practically all logistic activity to outsourcing to 3PL-provider - the logistic operator. The terminological aspects connected with the concept "logistic operator" and some tendencies of development of the Belarusian market of logistic services are considered in the article.

The international logistic terminology classifies the companies, which are carrying out service for producers, suppliers and sellers of goods as follows: 1PL, 2PL, 3PL, 4PL. In English language PL means party logistics. Generally, in Russian language they usually use the meaning "an operator or provider for "1PL, 2PL, 3PL, 4PL". Figures from 1 to 4 designate degree of the involvement of the company into a chain of deliveries. So "one" defines the relations "manufacturing – seller", and "four" means that the company undertakes practically all functions of the supply chain management, except Purchases and Sales. There are cases when PL operator performs these functions as well [1].

In the Republic of Belarus function 41 logistic centers, 30 of which are created due to national and foreign investments. Eight logistic centers are multimodal, 3 logistic centers have exchange warehouses. The total area of warehouse spaces is 2175,5 million sq.m that account for 410 sq.m on one thousand residents of the country.

Competitive advantages of a logistics system of the Republic of Belarus are:

– existence of the transport communications having considerable capacity in the international and republican traffic (network of the railroads – 5500 kilometers, network of the international highways – 3900 kilometers etc.);

– realization of modern technologies of goods movement, high level of containerization (about 10 container trains are passed every day with a route speed of 1200 – 1400 kilometers per day);

– high level of goods delivering safety;

– multivector character of economic relations of the Republic of Belarus (the share of trade with the countries of the Eurasian Economic Union is 49 percent, the European Union - 25 percent, Asia – 12 percent);

– the system approach to the development of the sphere of logistic services and infrastructure presented in state programs (realization of two special long-term state programs in the period of 10 years) [2].

Insufficient level of presence of 3PL-operators in the market of logistic services is one of the major factors, which is slowing down rates of a logistics system development of the Republic of Belarus, not to mention that the market of services of the Republic of Belarus is deprived of 4PL-providers at all.

3PL means to provide a complex of logistic services including delivery and cell-based storage as well as management of orders and control of goods movement. As 3PL-provider the organization guarantees organization and management of transport movement, account and stockpile management, preparation of import and export and freight documentation, warehousing, processing of freight and delivery to the end user. In fact for the company customer it means outsourcing: the serious direction of own activity is transferred to other hands, and the released resources – human, temporary, financial – are aimed at the development of primary activities.

According to "A professional advice on management of chains": 3PL is the firm providing a set of logistic services for clients. It is preferable that these services are integrated, or are provided separately. 3PL provides such services as cargo transportation, transport logistics, warehousing, storage of goods, responsible storage, cross-country docking, stockpile management, packing and forwarding of freights.

There are 4 categories of 3PL operators:

– Standard 3PL Provider: the main form of 3PL. It undertakes the following responsibilities: sampling and packing, warehousing and distribution - the main functions of logistics. For most these firms, 3PL function isn't their primary activity.

– Service Developer: this type of 3PL operator will offer their clients expanded value added services, such as: detection and tracking systems of a certain package or provision of a unique security system. Such

operators place emphasis on presence at them of perfect WMS systems and will decline the client for introduction of increasing number of IT services.

– The Customer Adapter: this type of 3PL operator comes to the rescue of the client and in fact undertakes complete control over logistic activity of the company. 3PL improves logistics sharply, but doesn't develop new services. The client base for this type of 3PL operator is, as a rule, very small.

– The Customer Developer is the highest level that 3PL can reach concerning its processes and kinds of activity. It occurs when 3PL is integrated with the client and undertakes all function of logistics. Such operators have only several large customers, but carry out very extensive volume of tasks [3].

Fully to carry out all required services and to carry out one-stop services 3pl should have possibilities for really high-quality work in all directions:

– to have own or leased warehouses with good technical equipment and with a possibility of diverse groups of goods storages, at the same time it is desirable to have a stock of free areas;

– to possess a widespread transport network circulating not only in one area;

– to be able to quickly and in a good manner carry out such accompanying operations as taking on charge a vehicle, development of the shipment application in a minimum of time, etc.;

– to offer the cheaply priced services what will help to increase competitiveness in the market of logistics.

For increase in efficiency of functioning of a national logistics system it is necessary to solve a number of important problems in the sphere of outsourcing of logistic services:

1. To considerably expand a complex of transport and logistic services (including planning, control, management and delivery) at active use of outsourcing of logistic services (technology 3PL) in the international market.

2. To create the system of training of highly qualified specialists in the sphere 3PL and 4PL of technologies and transport services [4, 5].

The next stage of the logistic companies development will be an arising nowadays 4PL. 4PL assumes integration of all firms that are involved in a chain of deliveries. The log provider of this class is engaged in planning, management and control over all logistic business processes of the customer that allows to achieve long-term strategic objectives and expand business of the client;

Thus, coordination of domestic logistics development by the state policy, formation of the centralized institute of management of the logistics system are necessary. The complex solution of noted tasks taking into account tendencies of development of the world market of logistic services will allow the companies of the Republic of Belarus to win steady positions in the international logistics. The developed logistic infrastructure of the country stimulates inflow of foreign investments, significant increase in volumes of transit transportations, formation of additional competitive benefits of the Belarusian participants of the market of transport and logistic services and significant increase in the export potential of the country.

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LIABILITY INSURANCE IN THE REPUBLIC OF BELARUS: FACTORS OF LOW DEVELOPMENT AND ACTIVITIES FOR IMPROVEMENT

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The article presents the concept and object of liability insurance. Factors and negative moments that adversely affect the insurance market of the Republic of Belarus are singled out, as well as measures are proposed to ensure the dynamic development of liability insurance.

Insurance plays an increasingly important role in provision the well-being of every family and every person. Commercial insurance, which is carried out by insurance companies,complements social insurance, which is organized by the state. Thanks to insurance, a person can save their property, provide themselves with money in case of illness and disability, get an additional pension and create financial guarantees for the family in case of their departure from life.

Nowadays, liability insurance is an independent sphere of insurance activity. The object of insurance is the liability of the insured under the law or by virtue of a contractual obligation to third parties for causing harm to them (meaning harm caused to the person or property of third parties). Due to arising insurance legal relations, the insurer assumes the risk of liability for obligations arising from the harm caused by the insured (physical or legal person) life, health or property of third parties [1].

Despite the fact that developed insurance markets have a positive impact on economic development, the level of distribution of insurance services in Belarus is quite low.

Despite the constant development over the past years, the insurance market is still relatively small with a limited number of insurance services. It should be noted that the low level of distribution of insurance services is inherent in many countries of the post-Soviet space. However the level of distribution of insurance services is three times less in Belarus (0.63%) than in Ukraine (2.01%), and it's almost five times lower than in Russia (2.77%). The index of insurance density (premium per person) is also small. The Belarusian insurance market is going through hard times and this is due, first of all, to the general economic situation in the country, to the unsustainable financial situation of most groups of potential insurers, and to the insufficiently active state policy in the field of insurance over the past few years. The share of insurance contributions collected in GDP in 2014-2016 was about 0.6-0.8%. At the same time, this index is within 3-4% in Ukraine and Russia, and it reaches 8-10% in Western Europe [2].

We can distinguish four factors that are associated with a cautious attitude of the population towards insurance, which have a negative impact on the development of the insurance market:

– failure to comply with insurance contracts concluded before 1992 by the State Insurance, and lack of compensation under these contracts. Compensation of outstanding insurance contracts concluded before 1992, to date, will require 300 trillion. rub. This situation undermines public confidence in the insurance system. In Russia and Ukraine, payments are made under similar contracts, which has a positive effect on the increase in the population's demand for insurance services;

– lowstandard of living;

– high inflation expectations. A high level of inflation in Belarus leads to an increase in demand for long-term insurance in hard currency. However, the lack of attractive insurance schemes in Belarus and the growing demand for hard currency insurance are met by illegal intermediaries of foreign companies, as well as by the desire to export money abroad, with the subsequent conclusion of contracts

– the presence network marketing companies in the field of life insurance. The emergence of multi-level financial pyramids or network marketing companies also have a negative impact on the development of population demand for insurance services [3].

Along with the above factors, the following negative points can be singled out in the implementation of insurance activities, using the example of the BRUSP« Belgosstrakh »:

– increasing of the average payment of insurance compensation (collateral) for liability insurance;

– the insurance premium is many times higher than the insurance payment, and for some voluntary types of liability insurance there are no payments over a long period. This adversely affects the development of voluntary liability insurance. The fact is that in this case, the insured does not have an incentive to insure liability: they will not receive even the amount of the contribution paid in any case;

– weak work of insurance agents with customers;
– decrease in the productivity of insurance agents;
– weak advertising activity in the field of insurance. The result of this is the ignorance of the insured about the existing types of insurance services. To change this situation, it is necessary to expand advertising activities, use modern means, for example, the Internet.

To increase the effectiveness of insurance companies in the implementation of liability insurance, it is advisable to carry out a number of measures to increase insurance premiums for this type of insurance and improve the quality of rendering insurance services. These activities should ensure the dynamic development of the liability insurance types. It is necessary:

1. To give due attention to the development of such prospective types of liability insurance as compulsory insurance of civil liability of the carrier to passengers, voluntary insurance of civil liability of living quarters owners. Activation of these types will significantly increase the amount of insurance premiums. The systematic development of these services will provide the insurance company with an increase in reputation in the insurance market of the region, will help to differentiate the insurance portfolio and expand the range of policyholders.

2. Such type of insurance as professional liability insurance, is poorly developed in the insurance market of the Republic of Belarus. Not all managers understand its necessity and benefits, but, having saved on insurance, they lose much larger sums. The competition in this segment of the insurance market is not yet great. However, interest in this type of insurance is gradually increasing. This is because of the availability of such a policy gives a competitive advantage, increases the credibility of professionals in the eyes of customers. Insurers conclude professional liability insurance contracts with legal entities and individual entrepreneurs who have the right to engage in professional activities in accordance with the legislation of the Republic of Belarus in the interests of third parties with a view to recovering the damage caused to them by the insured's professional activities. Such insurance allows you to shift responsibility for mistakes made in the course of professional activity to the insurance company. All this confirms the expediency of developing this type of insurance in the insurance market of the Republic.

3. The introduction of a system of labor competition between agents and specialists, which provides for the awarding of the latter as a result of the conclusion of the largest number of contracts.

4. Increasing professionalism of insurance workers. You can not minimize the importance of this factor, because it includes insurance agents and specialists who conclude insurance contracts, so they must be able to convince the insured of the profitability and importance for them of using certain types of insurance services.

Thus, the implementation of these measures will allow insurance organizations to increase the volume of insurance premium payments on liability insurance, expand the range of clients, take a more stable position in the insurance market of the region, improve the quality of insurance services for insured interests, and increase the level of insurance culture of the population and subjects management.

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Economics

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IMPROVING THE MECHANISM OF THE FREIGHT MANAGEMENT BY AUTOMOBILE TRANSPORT

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In article the problem of provision of efficiency of managerial process by automobile transport with attraction of trucking facilities is considered. The elements of management by automobile transport and structure of transportation process are characterized in more details. Principles of optimization of transportation process and enhancement of the controlling mechanism of freight transportation by automobile transport are shined.

In modern conditions of market economy, the management of freight transportation by the automobile takes a central place in the management of the national economy as a whole. Transportation is not something homogeneous and structureless, it consists of a combination of elements and operations, closely related to each other, and flowing in space and time. The duration of carriage by the automobile transport and its spatial extent vary in a wide range – from several minutes to several days, from several kilometers to several thousand kilometers. In the process of transportation, not only the movement of the cargo takes place, but also its accumulation, unbundling, consolidation, delivery of the cargo to the recipient, etc. All this necessitates the continuous and efficient management of the transport flow, including the planning of transportation, their rationalization, with the exception of unnecessarily distant counter and repetitive traffic.

Management of freight transportation covers all elements of the transportation process, namely:

– acceptance of goods, their transportation and delivery;
– supply of the loaded rolling stock for unloading, and empty cargo for loading;
– consolidation of goods presented for transportation to enlarged consignments;
– spatial movement with technological service on the way, etc. [1].

The structure of the transportation process is as follows:

1. Marketing researches of the cargo transportation market – complex study of the cargo transportation market, market strategy of cargo carriers, tariff policy of cargo transportation, formation of demand for freight transportation services and stimulation of their implementation;
2. Development of rational routes (schemes) for the movement of road freight transport – minimization of empty runs;
3. Selection of the type and determination of the required number of vehicles for the transport of goods – determination of the optimal transport of goods for a particular case;
4. Definition of the scope of the expedient use of the vehicle depending on the specific conditions of cargo transportation, the type and properties of the goods, the operational parameters of the truck transport;
5. Normalizing the speed of motor vehicles – ensuring the safe and efficient operation of the vehicle, safe and fast delivery of goods, rational use of the work of drivers and reducing the time spent on freight;
6. Coordination of the work of vehicles – ensuring the timely delivery of cargo to the right place, in the required quantity, ensuring the quality of transportation and with the least cost;
7. Selection of a vehicle traffic management system using appropriate labor standards;
8. Vehicle traffic control - ensuring the safe movement of the vehicle and the work of drivers;
9. Study and analysis of road conditions for the development of efficient and safe vehicle traffic routes – prevention of unplanned costs in force majeure situations (weather conditions, idle time, adverse road segment, etc.);
10. Application of economic and mathematical methods to improve the efficiency of vehicle use - reduce costs, increase profits from the transportation;
11. Ensuring efficient and safe cargo transportation;
12. Operational control of vehicle movement [1].

As practice shows, many automobile transport organizations face a number of difficulties in the process of cargo transportation, in particular:

– failure to use the full vehicle's carrying capacity;
– poor coordination of the vehicles work;
– use of obsolete vehicles, as a result of which the costs of their servicing are increased;

– incorrect development of routes for vehicles;
– downtime of vehicles, etc.

In determining the costs associated with the implementation of the transportation process, it is necessary to take into account:

– technical and economic indicators of the vehicles used (load capacity, cargo capacity, technical speed, idle time under loading and unloading operations, etc.);
– distance of transportation;
– costs associated with performing loading and unloading operations, damage and loss of cargo, violation of the term for the delivery of goods, etc.

Improving the efficiency of road freight transportation is associated with the technical improvement of the rolling stock of road transport and the means for performing loading and unloading operations, the introduction of advanced technology by improving the organization of cargo transportation. Technical improvements allow to increase the speed of the rolling stock, reduce downtime under loading and unloading operations, increase the volume of the shipment of cargo, etc. The task of cargo transportation technology is to reduce the duration and laboriousness of cargo transportation by reducing the number of operations performed and the stages of the transportation process [2].

Thus, in order to optimize the transportation process and improve the mechanism for managing freight by automobile transport, the following principles should be adhered to:

1. Tracking the technical condition of vehicles used in the organization;
2. Drawing up the optimal route for the movement of vehicles and cargo traffic, taking into account such factors as volume, direction and range, length of time, traffic congestion, sequence of traffic, etc.;
3. Scheduling and traffic schedules to ensure maximum utilization of their cargo capacity and cargo capacity, regularity of cargo transportation, meeting the needs of the largest number of customers for cargo transportation services, minimizing the time spent on transportation and empty runs of vehicles, the relationship with schedules and schedules of vehicles;
4. Coordination of forwarding of vehicles, control of timely arrival / departure;
5. Quality control of the service provided (tariffs, guaranteed delivery times, reliability of supply, compliance with environmental safety requirements, flexibility of provision, provision of related services, etc.).

The high-quality management of freight automobile transportation will help reduce the excessive time spent on simple cars during loading/unloading due to strict observance of the schedules for the delivery of machines, the optimal mode of transport, rational planning of traffic routes, etc.

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Economics

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EXPLORING WHAT BRINGS WOMEN TO MIGRATE

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The article presents the results of exploring what brings women to migrate. One of the things is corruption in countries of women's origin according to the Corruption Perception Index. According to the Index, made in 2015 by the international organization Transparency International, the lowest index of corruption among the countries of the Former Soviet Union with an index under No.23 was Estonia, and the highest index of corruption among the countries of the Former Soviet Union was Turkmenistan at No.154 in the Corruption Perception Index in 2015.

All of the countries of the Former Soviet Union, during the Post-Soviet period of independence, have passed through social upheavals and collapses and in some of the countries, it continues.

The best situations were in three Baltic countries: Estonia, Latvia and Lithuania. These countries, during the period of the Post-Soviet independence, have become members of the European Union and have accepted the Euro as their national currencies, and because of this, standards of living and quality of life for residents of these countries are much better than residents of other countries of the Former Soviet Union.

Corruption has had a strong and significant impact on political and social changes in the countries of the Former Soviet Union, and it is one of the factors leading to women's migration.

According to the corruption perception index in 2015 made by the international organization Transparency International [1], Armenia was under No.95 overall in the Corruption Perception Index ranking in 2015 and in this ranking the country was between two countries of the Former Soviet Union - between Georgia at No.48 and Moldova at No.103.

In this Corruption Perception Index the ranking of the lower indexes of countries means these countries are more free from corruption, and higher indexes indicate a higher level of corruption in countries all over the world.

According to the ranking of the Organization Transparency International, Azerbaijan was No.119 overall in 2015 and was between two countries of the Former Soviet Union with the same and similar Corruption Perception Index in 2015 - between Belarus at No.107 and the Russian Federation with the same No.119.

In the ranking of the Corruption Perception Index in 2015, Belarus was No.107 and was between two countries of the Former Soviet Union with the same and similar ranking in 2015 - between Azerbaijan at No.119 and Moldova at No.103.

As noted, Estonia, together with Latvia and Lithuania, have the best situations in political transformations and social changes because currently Estonia, Latvia and Lithuania are members of the European Union and have accepted the Euro as their national currencies.

Due to these positive changes in three Baltic countries, Estonia was at No.23 according to a Corruption Perception Index Score in 2015 and became the country with the lowest level of corruption among the countries of the Former Soviet Union. Lithuania was at No.32 of the Corruption Perception Index Score in 2015, and Latvia was at No.40 in the ranking.

In the ranking of the Corruption Perception Index in 2015, Georgia was at No.48 and was between two countries of the Former Soviet Union, behind Latvia at No.40 and above Armenia at No.95 in this ranking.

In the ranking of the Corruption Perception Index in 2015, Kazakhstan was at No.123 above Ukraine with its No.130 and the same as Kyrgyzstan at No.123.

In the ranking of the Corruption Perception Index in 2015, Kyrgyzstan was at No.123 between the Russian Federation at No.119 and Kazakhstan with the same ranking.

Concerning Moldova, there is a high level of migration flows from the country due to poverty, unemployment and corruption.

In the ranking of the Corruption Perception Index in 2015, Moldova was at No.103 and it was between two countries of the Former Soviet Union - between Armenia at No.95 and Belarus at No.107 in the Corruption Perception Index ranking.

In the ranking of the Corruption Perception Index in 2015, Russia was at No.119 and between Azerbaijan at the same No.119 and Kyrgyzstan at No.123.

IN the ranking of the Corruption Perception Index in 2015, Tajikistan was at No.136 in the overall Corruption Perception Index rankings in 2015, and it was between two countries of the Former Soviet Union - between Ukraine at No.130 and Uzbekistan at No.153.

In the ranking of the Corruption Perception Index in 2015, Turkmenistan was at No.154 in the overall Corruption Perception Index rankings, and it was the country with the highest level of corruption among all the countries of the Former Soviet Union.

In the ranking of the Corruption Perception Index in 2015, Ukraine was at No.130 in the overall Corruption Perception Index rankings in 2015, and it was between two countries of the Former Soviet Union - between Tajikistan at No.136 and Kazakhstan at No.123.

In the ranking of the Corruption Perception Index, Uzbekistan was at No.153, and it was the second country after Turkmenistan with the highest level of corruption in 2015 among the countries of the Former Soviet Union.

Therefore, according to the Corruption Perception Index in 2015, the lowest index of corruption among the countries of the Former Soviet Union with an index under No.23 was Estonia, and the highest index of corruption among the countries of the Former Soviet Union was Turkmenistan at No.154 in the Corruption Perception Index in 2015.

Post-Soviet political transformations, social changes in the countries of the Former USSR have very significant impact on female migration to Turkey because from the countries of the Former Soviet Union where political transformations and social changes are successful and effective, the percentage of female migrants is minimal.

From other countries of the Former Soviet Union where poverty, unemployment and corruption are too high, female migrants flows only increase, and female migrants try to solve all, or the majority, of their problems through marriage with Turkish men, because currently Turkey has a very high level of social and economic development, and social security.

Therefore, women from the countries of the Former Soviet Union more and more frequently marry Turkish men.

Conclusions. According to the Corruption Perception Index in 2015, the lowest index of corruption among the countries of the Former Soviet Union with an index under No.23 was Estonia, and the highest index of corruption among the countries of the Former Soviet Union was Turkmenistan at No.154 in the Corruption Perception Index in 2015.

Hence, Post-Soviet political transformations, social changes in the countries of the Former USSR have very significant impact on female migration to Turkey, because from the countries of the Former Soviet Union countries, where political transformations and social changes are successful and effective, the percentage of female migrants is minimal. From other countries of the Former Soviet Union where poverty, unemployment and corruption are too high, female migrants flows only increase, and female migrants try to solve all, or the majority, of their problems through marriage with Turkish men, because currently Turkey has a very high level of socio-economic development and social security [2-7].

Therefore, women from the countries of the Former Soviet Union more and more frequently marry Turkish men.

In order to understand the women's desires to marry Turkish men it was very important to analyse political and social and economic situations including indexes of corruption in the countries of women's origin thanks to data from the International organization Transparency International in 2015 [8-12].

Thus, according to the Corruption Perception Index in 2015, the lowest index of corruption among the countries of the Former Soviet Union with an index was Estonia at No.23, and the highest index of corruption among the countries of the Former Soviet Union was Turkmenistan because this country was at No.154. The Corruption Perception Index is important index because it helps to explain increases of female migrants' flows from some of the countries of the Former Soviet Union to Turkey [13-16].

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"GREEN BUILDING" AS AN ELEMENT OF GREENING THE ECONOMY

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The article describes "green" construction as an element of the ecologization of the world economy. The international experience in the field of ecological construction is considered; prospects of the development of this direction in the Republic of Belarus are estimated.

In the modern world, a person faces many different problems. However, there are a number of problems that are common to all people, regardless of race, state, national or social belonging: overcrowding, scarcity and quality of drinking water, air pollution and global warming, the spread of dangerous diseases, soil degradation and scarcity of food resources, acid rains and destruction of the ozone layer, loss of valuable species and mass reproduction of pests, reduction of forest area and occurrence of deserts, industrial radiation, the death of small rivers, the loss of nature in war zones. All these things reflect the problem of ecology. Ecology - in its widespread everyday understanding. A more rigorous designation of the above-mentioned list requires the addition of another name - the problems of the human environment.

Actually, ecology as a science was formed within the framework of biology. Its subject was the relationship of living organisms with each other and with the surrounding inanimate nature, patterns of distribution and organization of plant and animal communities, the dynamics of their numbers, factors of survival and productivity, energy flows and the cycles of substances in which organisms participate.

The current ecological and economic situation points to the need to replace the established technocentric image of the economy with a sustainable, ecologically balanced type of economic development. We need a review of priorities in both macro and microeconomics. At the same time, all macroeconomics should be included in macroecology. Their independence becomes more and more imaginary [1].

Ecologization of the economy is a necessary condition and at the same time the main component of ecologically balanced development. It is accompanied by a shift of the center of economic analysis from the costs and intermediate results to the final results of economic activity and further to the forecasted development trends. In essence, it means the ecologization of the entire social and economic structure and development of society.

Implementation of the sustainable development principles is possible while respecting the environmental requirements imposed on the economy. Hence, the practical significance of ecology is primarily that it can and must carry out scientific control of nature use. The use of nature is the main part of the resource base. However, environmental control over the use of natural resources and resource management is still extremely weak. Because of this, serious contradictions remain between economic interests and environmental requirements. These requirements are aimed at reducing the nature of the economy, the entire human economy [2].

Ecologization of the country's economy concerns all production spheres operating in the country. Including construction. Ecological construction is a new (post-industrial) stage in the development of the architectural and construction industry, which has begun to cross at the turn of the 20th and 21st centuries, and simultaneously - an important component of the notion of "sustainable development". This transition is a manifestation of the deep processes of awareness by the world community of the role that human civilization in general and urbanized territories - in particular, plays in destroying the stability of the ecosystem of our planet [3].

In the course of a long-term study of the problems of global warming, it became clear that modern cities, incl. the buildings and structures, represent one of the main sources of environmental pollution. These experts show that buildings around the world consume about 40% of all primary energy, 67% of all electricity, 40% of all raw materials and 14% of all drinking water supplies, and produce 35% of all carbon dioxide emissions and almost half of all solid household waste.

Today behind this concept there is a radical change in the approach to the entire construction and design process, which became possible due to the emergence of innovative (high) technologies. In order to understand at what stage and by which the optimization is possible, and where the real damage to the environment lies, it is necessary to take into account not only the qualitative characteristics inherent in the project itself, but the entire process of production of construction materials, their delivery system to the construction site, the approach of contractors to work, the completion of the facility, the features of its operation and disposal, and much more.

For the construction to be called "green", certain standards and norms must be observed at each of its stages. In order to adequately assess compliance with these principles, special market instruments have been developed in the implementation of real estate projects in the West, voluntary building certification systems, which at the moment there are several dozen in the world. A number of them are international systems that are used around the world, incl. our country [3].

The idea of "green" construction has many advantages for the environment, the welfare of society and the health of each individual. Its ubiquitous implementation can solve a number of global problems, such as climate change and resource scarcity.

The operation of eco-friendly buildings is more profitable from the economic point of view: this allows to significantly reduce the cost of water, heat and electricity.

The developers are also interested in this concept: the cost of eco-friendly buildings on the real estate market is constantly growing. At the level of the whole state, environmental construction is also a priority: it stimulates the development of new technologies and, together with the increase in economic indicators, increases the quality of life of the population.

"Green" projects support the national economy, create new jobs and improve the state's investment image [4].

Over the past 40 years, a real breakthrough has occurred in the field of green building. In the US and Europe, this direction is receiving increasing support from not only the companies-developers, but also the government. The concept of "green" construction significantly improves the ecological situation in cities in the era of urbanization and allows to reduce costs. Old buildings, built before the 1970s, annually require approximately 300-400 kWh / m^2 for heating. Houses that appeared at the turn of the millennium, when the "green" standards were just beginning to be actively used in the world, consume half the electricity. Finally, in the last decade, zero energy balance buildings are being actively built, which need only about 15 kWh / m^2 per year.

But even this progress did not stop: today it is increasingly possible to hear about "active" buildings, built and equipped in such a way that they produce more energy than they consume. This is achieved through the maximum thermal insulation of the building, as well as its equipping with solar panels, heat pumps and climate control system [5].

In recent years, the movement for "green" construction has become more and more large-scale. Proof of this can serve as projects for the creation of entire eco-cities, in which the surrounding nature, urban planning, buildings, communications and the very way of life of people harmoniously interact [4].

The concept of "green" construction in Belarus has not yet reached sufficient development. It has a negative impact on the industry, since the country has all the prerequisites for the successful development of this direction.

"Greening" of the Belarusian construction industry will allow [4]:

- improve the ecological situation;
- strengthen energy security;
- increase investment attractiveness;
- to stimulate the development of Russian science.

Taking into account the growing level of urbanization in the country, green building can significantly reduce the burden not only of the environment, but also of the energy sector.

Resource conservation, one of the main issues of "green" construction, is a priority area of the Belarusian energy sector. The Ministry of Architecture and Construction of the Republic of Belarus is actively involved in the implementation of energy efficient technologies in the process of construction. There is a regulation of the regulatory framework in order to comply with international environmental standards.

The complex program of design, construction and reconstruction of energy-efficient residential buildings in the Republic of Belarus for 2009-2010 and for the future until 2020 [6] has led to the fact that the last three years in the country only resource-saving residential houses are being designed. However, in the republic the definition of the energy efficiency level differs from the European parameters: while in Belarus only specific heat consumption is taken into account, a number of indicators are taken into account in Europe.

To solve this problem, technical regulations are being developed. Its entry into force will stimulate financing and concessional lending in the field of energy-efficient construction, ensure the development of alternative energy in the country and will increase the share of renewable energy sources in total energy consumption.

Thus, it is important to develop the sector of "green" construction in the Republic of Belarus. It will give a positive economic and environmental effect, which can change the entire construction industry in the country. This, in turn, opens wide opportunities for resource saving and solving many environmental problems.

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Economics

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DIGITAL TRANSFORMATION IN TRANSPORTATION AND LOGISTICS

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The article highlights the important role of the Internet in increasing speed and decreasing cost of supply chains. The difference between digital logistics and the traditional one is shown in details. The digital logistics system used by many specialists today is presented.

We are entering a period of dynamic and fundamental change to logistics operations and strategy. While the 1990s saw rapid advances in the logistics competencies of most companies, a number of forces, especially the communication and collaboration potential of the Internet, are dramatically changing the way companies craft logistics strategies, processes and systems. As a result, companies embracing this new paradigm will be able to strip out millions of dollars of operating costs, achieve better supply chain integration, and increase market power through customer-focused fulfillment.

The internet is ushering in a new era of tremendous increases in supply chain velocity and cost reduction through information sharing and logistics synchronization between trading partners and service providers. The logistics opportunities created are driving a market transformation from traditional logistics concepts to a new era of ***digital logistics***.

How is digital logistics different from traditional logistics?

1. Digital logistics recognizes the growing convergence of logistics operation and technology strategy.
2. Digital logistics is driven by a new generation of web-based, enterprise logistics applications that enable collaboration and optimization, leveraging a central logistics information backbone that provides visibility across the enterprise and extended supply chain.
3. With digital logistics, these new enterprise and supply chain logistics applications are tightly integrated with core warehouse, transportation and labor management systems to enable new process models and ensure fulfillment excellence.

Digital logistics breaks down operational silos. It impacts not only the cost side of the value equation, but also fuels growth through the ability to deliver personalized, customer-focused logistics, with faster cycle times and exceptional customer satisfaction [1].

Digital Logistics Framework. Companies embracing digital logistics will recognize, that there is a progression of capabilities that begins with functional excellence, moves to enterprise logistics management, and ultimately to the supply chain integration and collaboration that will characterize supply chain leaders.

Stage 1 – Functional Excellence: Despite the current focus on integrated enterprise logistics management and supply chain integration, digital logistics must be built on a foundation of functional excellence. Many companies have embarked on aggressive supply chain initiatives. For example, only to find they were unable to achieve their objectives due to an inability to perform at the local distribution center level.

Companies embracing digital logistics will achieve functional excellence in at least three key areas:

1. Distribution: Adoption of improved fulfillment processes and current generation, real-time warehouse management system (WMS) technology.
2. Transportation: Many companies are mired in inefficient transportation processes and lack the technology to automate load building, optimize inbound and outbound freight movements, and efficiently manage carriers.
3. Labor and resource management: Few companies have taken advantage of the opportunities to significantly increase productivity, quality and employee retention available through today's advanced labor management solutions.

It is extremely hard for companies that do not have the foundation of warehouse, labor and transportation excellence to move to the next level of digital logistics, since they cannot effectively execute the more complex strategies that are driven at the enterprise or supply chain levels.

Stage 2 – Enterprise Logistics Management: When functional excellence has been achieved, companies can embrace true enterprise logistics management. Key capabilities that will enable integrated enterprise logistics management include:

1. Supply chain visibility and event management: Many companies have made increasing supply chain visibility as a top corporate priority. In today's high velocity logistics environment, end-to-end visibility to

inventory, orders and shipments across the supply chain is emerging as an essential capability to reduce network-wide inventory levels, maximize customer satisfaction, and respond dynamically to logistics events.

2. Centralized command and control: Increased supply chain visibility provides many benefits, but it is not the end in itself. Companies must be able to act upon this information to effect action across the enterprise and beyond. This requires a new generation of enterprise command and control applications that provide enhanced levels of logistics efficiency and support new roles and responsibilities [2].

3. On-line logistics scorecarding and metric systems: Visibility to performance metrics is needed to drive continuous improvement. In a digital logistics environment, performance metrics (i.e., a "logistics scorecard") are widely distributed throughout the organization. They are accessible online, and allow the user to flexibly drill down on the information to gain additional understanding and determine the root cause of problems.

Stage 3 – Supply Chain Integration and Collaboration: Companies need the flexibility to quickly integrate with key trading partners to communicate information, synchronize activities, and collaborate across logistics processes. While direct system-to-system integration is often optimal, it is not always practical, and in some cases not sufficient to enable true collaboration. By constructing a series of collaborative digital applications specific to the roles of individual supply chain participants, "hub" companies can increase collaboration and synchronization. This will drive improvement in supply chain velocity, efficiency, and customer service.

These collaborative digital applications will be built on a backbone of supply chain visibility that serves as the central repository of all logistics information. Various players in the logistics chain may need the capability to view information, add or modify information, or access specific pieces of logistics application functionality required to fulfill their roles in the supply chain.

The human and connected drivers of faster business. Among many drivers there are obviously consumers, users, in other words people, who are expecting more and are increasingly mobile. This goes for all industries and in transportation and logistics, customer experience and engagement rank high in the top priorities as well.

Several evolutions, including mobility, have enabled a shift in behavior, which is further enhanced by the experienced customer, are used to in other contexts than the interactions and transactions with your business [3].

It's the famous 'spill-over effect'. At the edge of each supply chain an end customer sits just as, at the edge of each process a user, a logistics partner or any other stakeholder sit. The focus on the customer or as Forrester calls it, the customer-obsessed operating model, is felt everywhere. Just think, for instance, how in the context of a customer-adaptive enterprise the big data focus has moved towards fast data. Or how we move towards the edges in data analysis (edge computing and fog computing) in a context of the IoT. Or how it is essential to capture and process information fast (without forgetting the accuracy). Real-time economy might be a bit of a misnomer as real-time first describes a capacity. Though we also increasingly see it as a reality.

Hyper-connectivity inherently comes with a dimension of acceleration and speed. The connectivity of processes, people and how it is used [4].

New trends and strategies across enterprise logistics operations, combined with a new generation of logistics technology, will dramatically change the way leading companies pursue supply chain management.

Today, logistics professionals have a powerful array of new digital logistics weapons that can be strategically deployed to unlock significant value and create customer-focused logistics systems that build long-term competitive advantage [5].

Those companies that recognize this changing landscape and invest prudently in process change and supporting digital logistics technologies will reap vast benefits. Those that hesitate may find themselves in the next 2-3 years at a competitive disadvantage that is too great to overcome.

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CONSTRUCTION WASTE ACCOUNTING AT TECHNOLOGICAL CYCLE STAGES IN PETROCHEMICAL COMPLEX IN THE CONTEXT OF THE GREEN ECONOMY

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In this article, the relevance of improving industrial waste accounting of petrochemical complex in the context of the green economy is considered; technological cycle stages of construction waste are identified. The accounting objects at technological cycle stages of construction waste of petrochemical complex are also determined.

In order to understand the global nature of environmental problems and the relationship between human problems, the economy and the environment, the 1992 Rio Declaration on Environment and Development, a number of principles, were adopted. Thus, Principle 1 of this declaration states that in order to achieve sustainable development, environmental protection must be an integral part of the development process and cannot be considered in isolation from it [1]. Thus, the importance of the environmental protection problem was noted. Since the activities of enterprises in terms of waste generation, have a significant negative impact on the environment, proper handling of them is an integral part of sustainable development.

This issue is especially relevant for the Republic of Belarus, as today there are a number of unresolved interrelated environmental and economic problems in the country, including climate change, degradation of ecological systems, pollution of atmospheric air and surface water bodies, reduction of biological diversity, emergence and accumulation of waste. The green economy as a method for addressing environmental degradation problems is made to solve all of them. The national action plan for the development of the green economy in the Republic of Belarus until 2020 provides for a number of activities that contribute to the development of the green economy, which includes competent waste management [2].

For Vitebsk region of the Republic of Belarus, the most relevant issues are the handling of production waste in the petrochemical industry. During the activities of petrochemical organizations, various types of industrial waste arise. Despite the fact that the issues of valuation and accounting of waste are reflected in some legal documents and economic literature, there are a number of unexplored issues in this area, which confirms the relevance of the chosen topic. The purpose is to identify the stages of technological cycle of industrial waste and accounting objects identification at these stages in order to develop practical recommendations for assessment and accounting of industrial waste in the petrochemical complex. The setting of the goal determined the solution of the problematic aspects: classification of waste; separation of technological cycle stages of industrial waste; identification of accounting objects at technological cycle stages of industrial waste (Fig. 1).

1. By origin
- Waste production;
- Consumption waste;

2. According to the aggregate state
- Solid;
- Liquid:

3. Local emergence
- Depending on the specific process, where these waste occur: construction, reconstruction, cleaning of reservoirs, etc.

4. Possibilitily of further using
- Secondary material resources;
- Other waste products of production and consumption;

5. On the need for further processing for use
- Subject to recycling for use;
- Used without processing;

6. By degree of danger
- 1st class - extremely dangerous;
- 2 nd class - highly dangerous;
- 3rd class - moderately dangerous;
- 4th class - low-risk

Fig. 1. Classification of industrial waste

The authors have identified 5 main levels of waste classification, which can be used as a basis for developing methodological recommendations for the assessment, documentation, synthetic and analytical accounting of industrial wastes under conditions of using ecological technologies of their processing and utilization taking into account branch peculiarities:

It is important to note that different types of waste will have their own classification characteristics for accounting purposes.

Separating technological cycle stages of industrial waste, the category "technological cycle stages of waste" is introduced into the domestic practice of handling waste with the interstate standard GOST 30773-2001 "Resource Saving. Waste management. Stages of technological cycle" [3]. In general, there are 9 stages of technological cycle of waste, but after studying different economic sources, normative legal acts we have identified the following integrated stages of technological cycle of waste, which have a significant impact on the system of their accounting (Table 1).

Table 1 – Integrated technological cycle stages of industrial waste

The name of the stage	The content of the stage	The definition
Stage 1 "Emergence"	1) Simultaneously with identification; 2) In some cases simultaneously with disinfection	Identification of waste: activities related to the determination of the belonging of a given object to a waste of one or another type, accompanied by the establishment of data on its hazardous, resource, technological and other characteristics. Identification includes classification and coding of waste
Stage 2 "Collection and Accumulation"	In some cases simultaneously with disinfection	Activities on the concentration of waste in places of temporary storage of waste for the purpose of their subsequent disposal
Stage 3 "Waste Preparation for Use"	Includes sorting, packaging, labeling, stratification, etc.	A set of technological operations performed with waste to ensure the subsequent use of waste as a secondary raw material
Stage 4 "Storage"	It is carried out for the purpose of further use for recycling waste and disposal (destruction) for waste that are impossible to use	Waste content in places of temporary storage of waste, at waste storage facilities prior to their transportation to burial sites, disposal of waste and (or) waste disposal facilities
Stage 5 "Use"	1) In own production process; 2) Sale on the side; 3) Gratuitous transfer, etc.	The use of waste products for the production of products, energy, works, services
Stage 6 "Burial (destruction)"	1) Including transportation / transportation of waste; 2) Including certification (if there is transportation / transportation of waste	Waste insulation at waste disposal sites in order to prevent the harmful impact of waste products of their interaction and (or) decomposition on the environment, health of citizens, property owned by the state, property of legal entities and individuals, not providing for the possibility of their further use

At each stage of technological cycle of any kind of waste, two accounting objects will arise: the waste itself and the costs due to the specifics of the technological stage.

Waste at the stages of technological cycle is the final result of the processes occurring at the corresponding stage (at the output). In this case, waste will be recognized as accounting objects only if the criteria for recognizing assets are met.

The authors considered the features of identification of accounting objects on the allocated integrated stages of industrial waste technological cycle in the context of the following types of industrial waste that are presented below.

In the interest of this study the authors considered only construction waste at technological cycle stages in petrochemical complex.

Construction waste - wastes generated during the implementation of economic activities by legal entities and individual entrepreneurs for the erection, reconstruction, overhaul and maintenance, restoration, improvement, installation, dismantling, demolition and demolition of buildings and structures, industrial

facilities, roads, engineering and other communications, including the implementation of organizational and technical measures, special, installation and commissioning works [4] (Fig. 2).

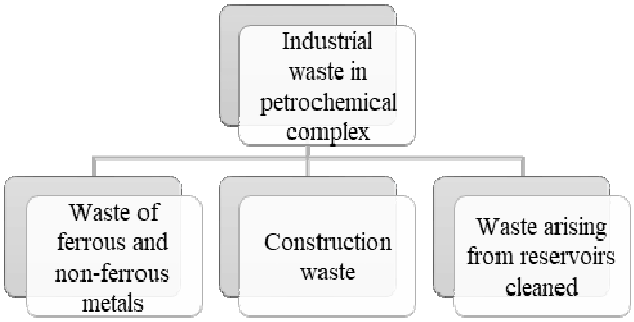

Fig. 2. Types of industrial waste for accounting purposes

There several types of construction waste that are formed in petrochemical complex:

– Wood waste;
– Wastes from pulp, paper, cardboard;
– Waste of mineral origin (excluding metal waste);
– Other wastes of mineral origin, including waste products for refining;
– Waste plastic, rubber-containing waste.

For each type of construction waste, specific features of the passage of the specified stages of the technological cycle of construction waste can be identified.

The features of identification of waste and costs as objects of accounting at the stages of technological cycle of construction waste are presented in the table 2.

Table 2 – Accounting objects of construction waste (waste, costs) in the context of integrated stages of technological cycle

Stages	Accounting objects	
	Waste	Costs
1	2	3
Construction waste for burial (destruction/ disposal)		
Emergence of waste	Paper, cardboard, oil product, fiberglass contaminated, waste glass "Triplex", Sand contaminated with inorganic substances, waste of mineral wool contaminated etc.	Costs for repair and construction works, costs for processing sawn timber, cutting and cleaning of the territory costs, etc.
Collection and accumulation		Costs for collection and accumulation
Burial (destruction/disposal)		Costs for land filling on landfills
Construction waste for further using (with changes in material form)		
Emergence of waste	Asphaltic concrete from disassembly of asphalt coverings, remains of bitumen and asphalt-concrete mixture, fight brick ceramic, waste of concrete, etc	Costs for repair and construction works, etc.
Collection and accumulation		Costs for collection and accumulation
Waste preparation for using		Costs of preparing the waste for use (sorting, drying, packing, marking)
Storage		Costs of collection and temporary storage

Continued

1	2	3
Using	New sort of secondary resource	Costs of use
Construction waste for further using (without changes in material form)		
Emergence of waste	Wood waste construction, sawdust and shavings in the manufacture of carpentry and milled products, lump waste from production of carpentry and milled parts, etc.	Costs for repair and construction works, etc.
Collection and accumulation		Costs for collection and accumulation
Storage		Costs of collection and temporary storage
Using		Costs of use

So as a conclusion we may say that construction waste also has its own peculiarities at the stages of technological cycle. Not every type of construction waste passes through all the enlarged stages of technological cycle. This is because construction waste can be both suitable and not suitable for future use.

For example, construction waste to be buried passes through stage 1, stage 2 and stage 6. Either construction waste can undergo further processing for use, but in Stage 3, in addition to new types of waste, construction waste that is subject to disposal may arise. Therefore, such waste will go through Stage 1, Stage 2, Stage 3 and Stage 6. It is important to note, however, that such waste is not valued for accounting purposes.

Construction waste, subject to further use, can pass through the following stages of the technological process:

1. Construction waste to be prepared for use: phase 1, 2, 3, 4, 5. It is important to note that construction waste that is subject to further processing (stage 3) can change the material-material form, which will also be reflected in the accounts of accounting.

2. Construction waste not to be prepared for use: phase 1, 2, 4, 5.

As it was noted earlier, as a result of waste transfer of technological cycle stages, there are two accounting objects: the waste itself and the costs that arise at each stage of their formation.

Thus, considering the features of waste technological cycle of construction waste, considering the objects of accounting at these stages, it is possible to develop methodological recommendations on assessment, documentation, synthetic and analytical accounting of industrial waste in conditions of application of ecological technologies for their utilization and processing taking into account industry specific features.

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SERVICE AS A NEW COMPETITIVE ADVANTAGE

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The article represents theoretical aspects of the concept "competitive advantage". The competitive advantage becomes a guarantee of work stability, a basis of long-term development. It creates barriers at the exit to the market for new participants, helps to get the best profit from sales of the company.

In the economics of high developed countries, the service industry has always occupied a significant place. But today they speak about the economics of service, in contrast to the old economics of goods production.

In history there were three types of strategic orientation of the company: production, product and a customer.

The strategy of production strengthened itself at the beginning of the last century, when the attention of companies was focused on improving technology and achieving the results of a large scale, which made it possible to make a large number of cheap products of the same type. When by the middle of the twentieth century the market had been filled up with cheap goods and the demand for essential goods had been satisfied, the task of improving the product arose. The producers who came to the market with quality at an affordable price became winners [1].

By the end of the twentieth century, in many segments, there was a real abundance of different products, but the products themselves (in some groups) became very similar in their technical and quality characteristics.

Today when market competition is tough, a decisive factor for the long-term prosperity of the company is a strong trusting relationship with the customers. Quality service of the customers is not only one of the competitive advantages, but in many fields of the activity it has become the only competitive advantage. The quality of service is a new standard on which the customers judge the quality of the product.

All these features could be attributed to the banks. Most of them are the same outside and inside: they provide their customers with a standard set of services and they are similar in their conservative views and lack of creativity. Today the market is approaching the stage of saturation, and now there are fewer customers who do not use any product of banks. This leads to the fact that the strategy of banks in cooperation with customers changes from the conquest of a new customer to its retention. Now in the competitive struggle for the customers the one, who offers lending rates much lower and the deposit rates slightly higher, does not always win. When the concentration of banks is very high, the competitive advantage of any financial and credit institution, including Belarus, is an orientation on the customer - the ability to profit thanks to the complete understanding and satisfaction of all the needs of its customers, creating comfortable conditions and quality service. A customer-oriented bank offers not only products and services that exactly match the needs of the customers, but it anticipates the needs.

Nowadays the success of a commercial bank and its competitiveness are determined not by the factor of price, but by qualitative characteristics. One of these characteristics is the quality of service of the banking services consumers.

One of the main indicators, which characterizes the process of work with customers, is the level of customer service. This indicator is integral, and it includes a number of particular indicators (customer service culture, speed of service, range of services provided to consumers, etc.). Most scientists when they estimate the quality of service unanimously consider that it is based on the time that customers spend on the purchase of services and the conditions when the consumer makes a purchase.

The audit company Ernst & Young is sure that the banks that continue to serve customers "in an old fashioned way" lose their competitors. When they carried out a global study, the company identified the need to move to the omni channel model - the concept of channel commerce that is aimed at interacting with the consumer using all channels, as the needs and desires of customers develop together with the world around them, and they want to limit themselves with traditional operations.

With the increase of the role of consumer demand in the economics we can see convergence of technologies for the promotion of goods in all spheres of business related to the mass consumer market, including banking.

For example the British Metro Bank serves customers in so-called "shops" even at weekends until eight in the evening. Such branches are equipped with machines for counting bills, as well as with tablets when you can make operations on the current accounts and open new accounts. The management of the bank takes care even of the customers' pets: in the rooms there are bowls with water for them. In the British "Virgin Money" the customers can not only make financial transactions, but also arrange business meetings and negotiations. Together with traditional branches the bank opens unusual ones – "Virgin Money Lounges". There are no counters to sale banking services and no one tries to "force" the customer to get another deposit or loan. Free Wi-Fi and refreshments are available here.

At the same time, "the brunch of the future" is not a panacea, and it is not a competitive advantage if it is a purely populist in nature, and it doesn't take into account the needs and capabilities of customers. At the same time meeting the demand of the consumers of different ages is connected with great investments and operating expenses with low profitability in the short term. Therefore only those financial companies, that will learn how to work effectively and find a way to make their product or service the best choice for their customers, will take a strong leading position. But we should agree that in most cases the revolutionary transformations that may improve profitability of the company occur outside its industry since competitors at the initial stage also do not rush to take risks with the introduction of new transformations. The ambition to copy will not interest anyone or cause the necessary reaction: you cannot stand out from the crowd if you try to look like the one who merges with it [2].

Today in the century of the high technology spread and large-scale introduction of machines and equipment into the servicing process the possibility of personal communication of the staff of organizations with customers reduces. It is paradoxical but high technologies lead to the indifference of customers in choosing a particular service organization, their loyalty to all organizations as they become "impersonal." That's why the need to search for new opportunities for personal service by a lively bank worker with a high culture of service is growing.

There is no "customer-oriented" concept and therefore there is nothing beyond the "customer-oriented" slogans. Very often a company that declares the care for customer its main value shows a low level of service and does not have the best indicators of customer loyalty, including next factors:

- it does not know its client;
- when it offers a product it guides by its own feelings but not of the client;
- it seeks to maximize profits in the short term;
- the focus on customer is not embedded in corporate culture.

Competitive advantage (with other indicators) will always be on the side of those companies, where customers are served by lively and friendly people. The quality and culture of human communication have always been and will be the most important resource of competitive advantage because polite and thoughtful service is remembered, and it doesn't depend on the level of technology. It will not only be remembered, but also recommended to others, and the organization will have an increasing number of clients not only potential but also real. About eight people will hear about a positive experience and about negative - twice as many. Studies show that about 20% of clients come on the recommendation.

Quality service is excellent as a competitive advantage of the company:

- It promotes the growth of sales and improves company profits;
- It provides a competitive advantage, and gives an opportunity to strengthen positions in the market;
- It forms loyalty to the target audience;
- It reduces costs for advertising, marketing and PR (general promotion);
- It reduces budgets for marketing, advertising and PR (for promotion on the whole);
- It reduces staff turnover and attracts the best specialists to the company;
- It increases labor discipline and productivity due to the positive attitude of the staff;
- It improves relations in the team [3].

In my opinion, the company's client-oriented business model is provided by:

1. Comfortable environment. It allows the clients to feel like home in the bank's branches. It suggests the appropriate interior, the appearance of the staff, the presence of information materials and so on.

2. Qualification of the staff. It shows itself in the interest of all the staff in the results of their work and the bank entirely. Relations with the clients are constantly being stimulated. The company follows the rule: "Treat your employee the way you want him to treat his client."

3. Optimization of business processes. This is manifested in the delegation of authority to take decisions to a lower level. The decisions are made taking into account the knowledge of the needs of the customers.

4. Corporate culture. It means the presence of a corporate culture aimed at the final result, focused on teamwork, bottom-up initiative and innovation.

5. Technological equipment. The business model is built according to the expectations of consumers, taking into account the main trends of the industry. In the banking business, for example, it means simple and convenient access to banking operations. Many banks collect maximum information about their customers, about their preferences in financial services and about behavior of consumers. All this allows them to bring innovations to the market and give individual offers to customers, so maintain their positions in the market in any conditions.

6. Marketing developments and events, communications. Implementation of the practice of conducting on a continuous basis marketing research to study consumer preferences- existing and emerging. The basis for multidimensional segmentation of consumers in the market is the image and lifestyle of consumers of banking services. It is also important not to collect the information about the client but also to convey the information to him about himself and his products correctly. Charity and sponsorship, grants and scholarships established by the company, as well as the participation of managers and employees in various events as experts, work well to maintain its positive image.

7. Financial situation. Customers need to know that the company with which they are going to build long-term cooperation is reliable and stable.

I believe that all these factors form a client-oriented, growing into a first-class service, and it becomes the basis of the sustainable competitive advantage of the company. Because quality service is an effective tool of sales and it provides a sustainable competitive advantage. Often it is the only competitive advantage that a company has in the industry, where many companies offer the same goods or services. Here I agree with the statement of Peter Drucker: "There is only one legitimate justification for the purpose of business - the creation of a satisfied customer".

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Economics

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DEVELOPING OF THE CONCEPT OF "GREEN" LOGISTICS IN TRANSPORTATION AND FORWARDING ACTIVITIES OF THE ENTERPRISE

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This topic aims to introduce logisticians to green logistics and encourage them to think in "green" terms, to highlight the challenges and to indicate some advantages of "green" logistics.

It's impossible to imagine an activity of economic entities without logistic processes. Most often it is considered that the logistics purpose consists in minimization of expenses and maximizing of profit. Attention of the companies to "green" aspect of their logistic operations is caused by such tendencies as increase in knowledge of consumers, increase in demand for specialists in questions of environment protection, growth of importance of maintenance and environment protection factors and also the growing political influence and regulation in this direction. The term "green" logistics means methods of management of delivery chains and strategy which reduce ecological and resource impact of streams distribution. Green logistics based on environmentally friendly "green" technologies.

The negative impact of logistics and of all transport and its infrastructure on ecology is very extensive, and it also includes a current international problem of greenhouse emissions in the atmosphere and change of climate. Statistically up to 28% of emissions falls on transport.

Transport emissions are distributed as follows: 87% of the general emission falls on the motor transport, about 8% — on railway, 3% — on air transport and 2% — on river and sea.

Air pollution by transport results from combustion of fuel. The chemical composition of emissions depends on a type and quality of fuel, the production technology, a way of burning in the engine and its technical condition.

One car on average burns annual norm of oxygen for each 1000 km of a way. The waste gases of ICE (Internal combustion engine) contain about 200 components. The period of their existence lasts from several minutes to 4-5 years.

Mitigation of consequences of technogenic impact on the nature demands serious financial investments. The general budget of the project European Union Water Initiative Eastern Europe for six countries (Azerbaijan, Armenia, Belarus, Georgia, Moldova, Ukraine) makes 24 million euros. Purposes and tasks of the program are to improve water resources management in the countries of the Eastern Partnership. The budget of Environmental protection of the international river basins (EPIRB) is 7 million euros. Prevention, Preparedness and Response to Natural and Man-made Disasters in the Eastern Partnership Countries demands 6 million euros [1].

More than 300 international acts regulating standard and legal base of relationship in the field of transport with 131 foreign countries are signed for reduction of pollution of atmospheric air. In 1992 the United Nations has accepted the program action plan of sustainable development in the 21st century. The purpose of The United Nations Conference on Sustainable Development (UNCSD), also known as Rio+20, is to achieve the quality environment and healthy economy for all people of the world.

As a result of Rio+20 all countries have confirmed obligations for stage-by-stage refusal of subsidies for fossil fuel. Participants of Rio+20 have urged The United Nations Statistics Division to develop new indicators of sustainable development to expand membership in council of The United Nations Environment Programme (UNEP) [2]. Thereby actually the countries have assumed liabilities to realize transition to "green" economy.

The "green" logistics first of all is directed on improvement of innovative activity and also on rise of efficiency in the sphere of the heavy industry, for example, in mechanical engineering, oil production and in many other leading sectors of economy. Synthesis of economy, society and environment is one of the key moments for introduction of such logistics. In other words green economy is a basis for development of green logistics.

Development and deployment of initiatives on decrease in negative ecological impact of transport takes place at various levels, and it is a result of decisions of The Kyoto Protocol, and nowadays specially adopted The Paris Agreement.

The ISO 14001 standard involves the use of a strict environmental management system and, like the related ISO 9001 quality standard, it requires that an organization monitor improves its performance. The standard encompasses all of the environmental effects of a manufacturing site, including energy use, water treatment, waste disposal, noise and air quality [3].

ISO 14001 certification is one step being taken under a new Ford Environmental System that is designed to provide a globally consistent set of environmental management procedures, yet allow each local plant to identify its own environmental needs and objectives. Ford Motor Company's North Penn facility, near Lansdale in Montgomery County, has been certified under the international environmental standard ISO 14001. North Penn is the fifth facility in North America to achieve the standard. The other four also belong to Ford.

The western countries have begun to finance replacement of old motor transport. Laws on utilization of retired vehicles are adopted in 50 countries of the world. In 2009 Germany has allocated 3 million euros for these purposes.

This country is considered as the homeland of an autorecycling. The law "about an economic recycling" has played an important role in Germany since 1996. The efficiency of this law can be proved by an example of the BMW company. The company has developed the concept which considers need of utilization at a stage of car design. In other words, it is possible to reuse almost for 95% of each car. In Germany raw materials of one half trillion euro cost are processed every year. The share of material cost in cost of production in the German manufacturing industry has already reached 45 percent. Meanwhile the share of expenses on salaries has decreased to 18 percent.

More than 11 million cars are annually processed into the USA. Here processing is supported with the ban on the organization of dumps and burial and burning of waste is more expensive than processing.

The company of express delivery DHL has started the GoGreen service which means that DHL counts the number of emissions of CO2 from transporting of each freight from the moment of his reception and until delivery to the recipient. The client can pay 3% high of standard rates, and DHL invests the raised money in protection climate programs.

The Japanese shipping company To Line has installed on separate crafts computer system which on the basis of continuous monitoring of weather and hydrographic conditions optimizes operation of the engine that, in turn, leads to reduction of volumes of harmful emissions in the atmosphere.

The operator of express delivery UPS has bought 130 cars with hybrid engines which will consume 66 thousand gallons of fuel (35%) less in a year than transport with the internal combustion engine. Emissions of CO2 will also become 671 ton less. The amount of the "saved" emissions is equivalent to the volume of exhausts which is the share of 128 cars in a year.

The German carrier of Deutsche Bahn Schenker Rail for the first time in the European railway branch has offered the way of a transportation of freights which is completely excluding emission of carbon dioxide. Within the Eco Plus project the company receives electricity for the electric locomotives from renewables. In total within the program for protection of climate by 2020 the exhaust of carbon dioxide from the operations intends to reduce by 20% in comparison with the 2006.

The Green Cargo company, service provider of logistics, has realized signs of the times too. For a number of years the company invested the capital in locomotives with low consumption of energy.

About 60 million euros have been saved during construction of Nord Stream thanks to the developed concept of "green" logistics. Nord Stream became the safest and eco-friendly way of transportation of gas in the world. According to the experts, reduction of emissions of CO2 in the atmosphere within 50 years of operation of the gas pipeline will count 200 million tons.

In the logistic center "Toyota" in the Belgian city of Zebryugge at the beginning of 2013 two wind turbines have appeared. Each of them will develop 3 MW of the electric power. Their annual productivity was 17,1 MW/h. Besides, solar panels for power production are installed at the Toyota plants in Great Britain and France.

Decrease in level of ecological danger from influence of transport is possible by implementation of the comprehensive program, but there are certain contradictions of ecological and economic targets and tasks of logistics that complicates expansion of green logistics (shown in Table 1).

The presented contradictions can be solved by tools of the state regulation, for example, "zones of limited entrance" and special routes of cargo transfer. It is possible to create special ecological funds (means from which go for improvement of nature protection activity), to use system of preferential crediting for implementation of nature protection actions and also system of penalties for ecodestructive influence.

After the progressive world our country has declared that it chooses "green" economy as a model of the further development too. Belarus has instilled values of green economy on the example of the European Union programs which include a number of components. The "Assistance to Transition of the Republic of Belarus to "Green" Economy" project financed by the European Union (EU allocates to Belarus 5 million euros).

In the sphere of power engineering due to modernization of the generating sources of a power supply system and introduction of modern energy efficient technologies, energy saving the equipment and materials in 2014 it was succeeded to reach saving 1730,3 thousand tons of conditional fuel. And the share of local fuel and energy resources has increased up to 146,3 thousand.

Table 1 – Contradictions of ecological and economic targets and tasks of logistics

Disagreement subject	Contradictions of ecological and economic targets and tasks of logistics	
Expenses	Need of allocation of considerable funds for nature protection actions	Minimization of expenses
Organization of supply system and selection of suppliers	Selection of suppliers of environmental friendly raw materials	Optimization of capital investments and procuring expenses
Time, accuracy and reliability of delivery	Development of the optimum routes and ways of cargo transfer which aren't creating traffic jams	Use of vehicles and routes that allow to minimize time of delivery
Production system	Account and reduction of an environmental pressure from production, reduction of environmental risks, use of modern power- and resource-saving technologies and equipment	Decrease in production expenses including due to economy on nature protection actions
Organization and flexibility of systems of distribution	Organization of the systems of distribution consuming smaller quantity of the resources, occupying smaller space, using smaller quantity of infrastructure	Providing general-system efficiency and expansion of coverage with the distribution systems of the markets and territories
Warehousing system	Placement of warehouses out of settlements	Placement of warehouses in the territory of the enterprise including places of disposal of ecologically harmful and toxic raw materials and waste
Ways of transportation	Quick transportation in small lots by modern means of transport, consuming smaller amount of fuel, using biofuel and producing smaller quantity of irritants	Transportation by economical means of transport in large lots

Example of the Belarusian logistic company with ecologically directed policy is AsstrA Associated Traffic AG. AsstrA has implemented the system of ecological management for the purpose of controlling harmful effects on the environment and also for increase in efficiency of activity of the company, for reduction of expenses by implementation of ecological programs. According to environmental policy AsstrA has integrated requirements of ISO 14001 into a quality management system. The company has realized tasks as decrease in emissions of harmful substances (such as nitrogen oxide, carbonic, solid waste), decrease in the noise level, reduction of energy and raw materials expenses. Certified audit on compliance of ISO 14001 has been booked by the largest company for certification Bureau Veritas Certification. The transport conforms to the Euro-4 and Euro-5 standards – the environmental standards regulating the content of harmful substances in exhaust gases.

Each logistic company has to understand and take the responsibility for the damage caused to the environment. In spite of the fact, that the concept of sustainable development and green logistics demands considerable financial and social resources, in the long term it will bring productive results. All of us have to try to keep the natural resources and to prevent irreversible consequences of reckless acts of humanity.

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EXHIBITION MANAGEMENT: STAGES AND INTEGRATED COMMUNICATIONS

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The article describes the stages of international exhibitions management, the main mistakes made by the project managers and the top management of the Exhibition Company "Belinterexpo" during international exhibitions. It contains advice on the improvement of corporate integrated communications.

It is undeniable that the international exhibitions are a powerful tool for promoting the image of a country abroad and boosting its competitiveness on the international market. Managed appropriately, the international exhibitions produce economic, social and cultural benefits [1, p. 257]. The exhibitions require thorough planning and effective implementation to ensure that participants, visitors and guests gain all the advantages from the event on the international level.

The object of the research is the theory of integrated communications in exhibition activities.

The subject of the research is integrated communications in the event management of the international exhibitions by the Exhibition Company "Belinterexpo" of the Belarusian Chamber of Commerce and Industry (BelCCI).

The objectives of the research are to determine the main stages of the international specialised exhibitions management; identify the mistakes in the implementation of the integrated communications in the international exhibitions management by the Exhibition Company "Belinterexpo" of BelCCI; and provide the solutions to correct them.

The stages of the event management of specialised international exhibitions can be summarised in Table 1.

Table 1 – The stages of International Specialised Exhibitions Management

Stage	Stage Description
Stage 1. Event Idea and Approval	Idea generation.
	Approval of the top management.
Stage 2. Setting Date, Venue and Budget	Dates setting.
	Negotiation with platforms for the exhibition.
	Formulation of the realistic cost analysis.
Stage 3. Program Planning and Speakers Selection	Planning the intensive business program.
	Endorsement of the keynote speakers.
	Endorsement of subject-matter experts.
Stage 4. Participants and Visitors Lists	Creation of the database of both participants and visitors.
Stage 5. Event Promotion	Finding the media to cover the event.
	Production of printed collateral materials.
Stage 6. Event Execution	Monitoring the situation.
	Conducting surveys.
Stage 7. Event Reconciliation	Evaluation of the event effectiveness.
	Communicating the event results to the leadership.
	Sharing the event results with the participants, visitors and guests [2, p. 363].

The results of case analysis of the integrated communications in the international exhibitions management by the Exhibition Company "Belinterexpo" of BelCCI can be summarised in Table 2.

"This site may be hacked" is the message under the first link to the corporate website of the Exhibition Company "Belinterexpo" in Google, which appears when a search engine thinks that hackers have changed the content of the website or added their own information to it; and having visited this website, users may suffer from the harmful software.

Table 2 – Integrated Communications in the Event Management of International Exhibitions by the Exhibition Company "Belinterexpo" of BelCCI: Mistakes and Solutions

Mistakes	Solutions
Mistake 1. Lengthy meetings without results.	- work out a clear agenda of the meeting;
	- set time limits of the meeting.
Mistake 2. No clear division of project managers' responsibilities.	- delegate responsibilities among the employees without their overlapping.
Mistake 3. Vague event ideas (event concepts).	- formulate the ideas of events (international exhibitions and conferences) clearly.
Mistake 4. Vague formulation of events target audience.	- conduct marketing research;
	- formulate the target audience of events clearly.
Mistake 5. No Customer Relationship Management (CRM) system.	- install a CRM system.
Mistake 6. No special service for e-mail distribution.	- install a special service for email distribution (e.g. MailChimp).
Mistake 7. No special service for the managers of the enterprise to edit documents simultaneously.	- use Google Docs to create and edit documents simultaneously.
Mistake 8. "This site may be hacked" (Figure 1).	- modify the website or create a new one.
Mistake 9. The reasons for the event failure are not analysed.	- conduct failure analysis.

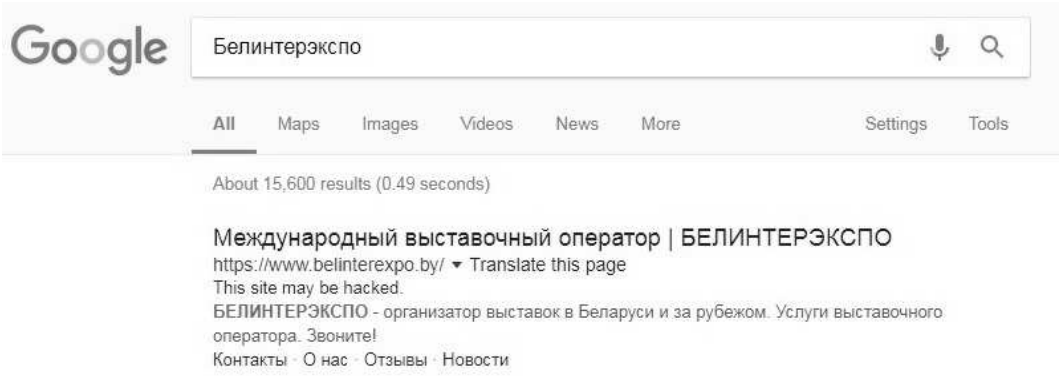

Fig. 1. Message "This site may be hacked"

Newness of the research is that for the first time the peculiarities of organizing and holding the international specialised exhibition in the Republic of Belarus have been analysed.

The area of application: the algorithm of organising and holding international specialised exhibitions can be used by the specialists of the exhibition companies to improve the enterprise's integrated communications system.

The perspective of the research is to create a handbook on the implementation of integrated communications in the event management of international exhibitions.

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THE ANALYSIS OF DERIVATIVES MANAGEMENT IN THE NON-FINANCIAL ORGANIZATIONS

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The article analyzes the management of the derivative instruments on the example of non-financial organizations. In particular, the issues related to the purpose of application and selection of specific instruments in these organizations are examined more closely. The main types of risks that can be managed with the help of derivatives are also considered in the article. Moreover, the situation when derivative instrument as a risk management tool become a source of actual losses, has been demonstrated and analyzed.

Introduction. Derivatives in some cases may be an effective instrument for managing the company's market risk (i.e. hedging instrument) or a tool for obtaining additional profit from speculative operations. At the same time, the usage of derivatives in non-financial organizations, for which derivative instruments are rather often considered excessively complex and risky, requires the construction of an effective system of their management. It should be noted that in the Republic of Belarus derivatives are used minimally by non-financial organizations for a number of reasons: misunderstanding of their benefits and risks associated with poor management. The purpose of this research is to review practical aspects of managing derivatives in large non-financial organizations of the Russian Federation (as in the Republic of Belarus the usage of these instruments is almost minimal) and to identify common trends and problematic aspects in this field. This work is a part of a full-fledged scientific research conducted by the authors in the field of management the derivatives in non-financial organizations, but it has a complete form and ends with a full withdrawal part.

The main part. The practical issues of management the derivatives in the organizations, which are considered in this paper, include the purpose of their usage and the choice of a specific instrument. Non-financial organizations are more likely to use derivatives for hedging rather than to profit from speculative operations. And if the speculative operations are aimed at making profit from changes in market variables and clear to both the company's management and any expert in the economic sphere, hedging transactions are often connected with a number of questions, which requires some clarification below.

In the current activities non-financial companies face with the different types of risk, in response to which it is necessary to take appropriate management actions to ensure the neutralization or reduction of these risks to an acceptable low level. If the activity of the company depends on market variables (e.g. exchange rates, commodity prices, the size of interest rates), then we can say that the organization is exposed to market risk (including currency risk, risk of changes in commodity prices, interest rate risk). To these types of risk will be exposed companies, that are engaged in export-import operations or connected with exchange traded commodities, as well as organizations, which borrow loans and credits at floating or fixed rates. The hedging method can be used to manage this type of risk.

Hedging (from the English hedge – to protect, to insure yourself against possible losses) – futures (forward) transaction for insurance against the possible fall of price when making long-term deals. And hedge, accordingly, – the position, which is used as a temporary replacement for the future position in another asset (obligation) or to protect the value of the current position of the asset (obligation), while this position may not be eliminated [1, p. 200].

Next it is necessary to consider in what cases non-financial organizations use derivatives on the example of a number of Russian companies. For that reason the statements of non-financial companies according to IFRS related to derivatives and risk management will be summarized in table 1.

Thus, it can be noted that Russian companies actively use derivatives to hedge their risks. Basically, it is hedging of risks associated with cash flows nominated in foreign currency, to a lesser extent – hedging of interest rate risks and risks of commodity prices volatility. In the considered reporting the information about financial results on derivatives is included in the indicators of financial income or expenses or profit or loss on the net basis, while the detailed data on derivatives was provided only in the hedging relationships description, when a special accounting procedure is applied (i.e. hedge accounting). Accordingly, this reporting does not fully assess all aspects related to derivatives and gives a general vision of the situation in this area.

Table 1 – The usage of derivatives to manage market risk by Russian companies in 2016

Accounting policies / type of risk	Table of contents of the accounting policies section / Method of risk management
1	2
PJSC LUKOIL and its subsidiaries (together, the «Group»)	
Derivative instruments	The Group's derivative activity is limited to certain trading operations with oil and petroleum products and hedging of commodity price risks. Currently this activity involves the use of futures and swaps contracts together with purchase and sale contracts that qualify as derivative instruments. The Group accounts for these activities as not intended for hedging and doesn't use hedge accounting. The Group accounts for these activities at fair value. Resulting realised and unrealised gains or losses are presented in profit or loss on a net basis. Unrealised gains and losses are carried as assets or liabilities in the consolidated statement of financial position
Currency risk	The Group is subject to foreign exchange risks since it operates in a number of countries. The exchange rate of the Russian ruble to the US dollar produces the greatest impact on transaction results, since the Group's export proceeds are denominated in dollars, while the major costs are incurred in Russia and are denominated in Russian rubles. ... In a number of cases currency risks at trading floors are minimized due to the financial derivative operations conducted as part of the corporate dealing process. Moreover, to mitigate its foreign exchange risks, the loans to Group companies are granted in local currencies as part of inter-group financing …
PJSC Rosneft Oil Company and its subsidiaries (collectively, the «Company»)	
Currency risk	The Company undertakes transactions predominantly in foreign currencies and is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the U.S. dollar and euro. Foreign exchange risk arises from assets, liabilities, commercial transactions and financing denominated in foreign currencies. A portion of future monthly export revenues expected to be received in U.S. dollars over the period from January 2015 through December 2020 was designated as a hedged item. To the extent that a change in the foreign currency rate impacts the fair value of the hedging instrument, the effects are recognized in other comprehensive income or loss and then reclassified to profit or loss in the same period in which the hedged item affects the profit or loss
Gazprom Neft PJSC (the «Company») and its subsidiaries (together referred to as the «Group»)	
Derivative instruments	Derivative instruments are recorded at fair value on the Consolidated Statement of Financial Position in either financial assets or liabilities. Realised and unrealised gains and losses are presented in profit and loss on a net basis, except for those derivatives, where hedge accounting is applied. The Group applies hedge accounting policy for those derivatives that are designated as a hedging instrument (currency exchange forwards and interest-rate swaps). The Group has designated only cash flow hedges – hedges against the exposure to the variability of cash flow currency exchange rates on a highly probable forecast transaction
Currency risk	The Group is exposed to currency risk primarily on borrowings that are denominated in currencies other than the respective functional currencies of Group entities, which are primarily the local currencies of the Group companies, for instance the Russian Rouble for companies operating in Russia. The currency in which these borrowings are denominated in is mainly US Dollar. The Group's currency exchange risk is considerably mitigated by its foreign currency assets and liabilities: the current structure of revenues and liabilities acts as a hedging mechanism with opposite cash flows offsetting each other. The Group applies hedge accounting to manage volatility in profit or loss with its cash flows in foreign currency and hedges predominantly its borrowings

Continued

1	2
Interest rate risk	Part of the Group's borrowings is at variable interest rates (linked to the Libor or Euribor rate). To mitigate the risk of unfavourable changes in the Libor or Euribor rates, the Group's treasury function monitors interest rates in debt markets and based on it decides whether it is necessary to hedge interest rates or to obtain financing on a fixed-rate or variable-rate basis
PJSC «Russian railways» and its subsidiaries (the «Group»)	
Derivative instruments	The Group uses derivatives, such as forward currency contracts and interest rate and currency swaps. Such derivatives are initially recognized at fair value on the date on which a derivative contract is entered into and are subsequently remeasured at fair value. Derivatives are carried as financial assets when the fair value is positive and as financial liabilities when the fair value is negative. Starting 2015, the Group designates certain financial instruments as hedging instruments and applies hedge accounting (cash flow hedge and hedging of the net investment in a foreign operation)
Currency risk	The Group is exposed to currency risk on selected receivables, payables and borrowings that are denominated in a currency other than the Group companies' functional currencies. The currencies in which these transactions are denominated are primarily Swiss Francs, US dollars, Pounds Sterling and euros. The Group aims at maintaining a neutral open currency exchange position through offset of outflows in a foreign currency by inflows in corresponding currency. As at 31 December 2016, hedged item (in hedging relationships according to IFRS) is represented by forecasted Swiss Francs denominated revenue for cargo transit through Russia. Hedge accounting is applied in respect of total revenue for cargo-in-transit transportation steadily forecasted for the period from October 2016 to November 2026 and considered to be highly probable. The exchange rate fluctuations of ruble against Swiss Francs are hedged in this hedging relationship
PJSC Aeroflot - Russian Airlines and its subsidiaries (the «Group»)	
Derivative instruments	Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently remeasured at their fair value. The method of recognising the resulting gain or loss depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged. The group designates certain derivatives as hedges for a highly probable forecast transaction (cash flow hedge). The Group analyses and assesses the fair value of derivative financial instruments on a regular basis for the purposes of consolidated financial statements or when so requested by management. For risk management purposes the Group uses the following derivatives: a) cross-currency interest rate swaps with a fixed interest rate; b) fuel options; c) currency options
Currency risk	The Group is exposed to currency risk in relation to revenue as well as purchases and borrowings that are denominated in a currency other than rouble. The currencies in which these transactions are primarily denominated are Euro and US Dollar. The Groups analyses the exchange rate trends on a regular basis. The Group uses long-term lease liabilities nominated in US Dollars as hedging instrument for risk of change in US Dollar exchange rate in relation to revenue
Price risk	The results of the Group's operations are significantly impacted by changes in the price of aircraft fuel. In 2012, 2013 and 2014 the Group entered into agreements with a number of Russian banks to hedge a portion of its fuel costs from potential future price increases. Given as at 31 December 2016 and 31 December 2015 the deals were matured, change in value of underlying asset as at the reporting date would not have any significant impact of financial results and equity of the Group

Source: author's elaboration based on [2–6].

At the same time, it should be noted that operations with derivatives, especially the usage of their complex combinations, are associated with the high level of risk. For example, if we consider the reporting data of PJSC «Transneft» from 2013 to 2016, the position of profit (loss) from operations with derivative instruments will look like it is shown in table 2.

Table 2 – Profit (loss) from operations with derivative financial instruments of PJSC «Transneft» and its subsidiaries in 2013 – 2016

Indicator	2013	2014	2015	2016
Net profit (loss) from operations with derivative financial instruments, million Ross. RUB.	(52)	(75 289)	(5 088)	3 388

Source: author's elaboration based on [7, 8]

As we can see, in 2014 PJSC «Transneft» got a significant loss from the usage of derivatives. Briefly the conditions in which the loss was obtained can be described as follows.

In January 2017 the transport monopoly has submitted the claim to the Sberbank, requiring the Bank to return 67 billion rubles, which the company lost on derivative financial instruments due to the collapse of the ruble in 2014. The execution of the agreement occurred if the exchange rate exceeds 45 RUB/$. Then this barrier was changed to 50,35 RUB. But by the end of 2014 exchange rate of dollar against the ruble reached 56,65 RUB. As a result «Transneft» received 75.3 billion RUB of loss due to the execution of conditional transaction. «Transneft» asserted that the Bank failed to warn it about all the risks. In its turn, Sberbank claimed that «Transneft» was a qualified investor with all the ensuing consequences. In June, the Moscow Arbitration court satisfied the claim of «Transneft». The Bank filed a complaint, and in august 2017 the appellate court refused to «Transneft» in the claim. At the end of November 2017, Transneft and Sberbank decided to conclude an amicable agreement on this litigation [9].

Conclusions: according to the results of the analysis of the practice management the derivatives in non-financial organizations it is possible to identify the following trends. Firstly, all reviewed companies use derivatives to a greater or lesser extent, while the main instruments are foreign currency forwards and interest rate swaps. Secondly, in the considered reporting information on specific hedging strategies is disclosed only for the transactions in respect of which hedge accounting under IFRS is applied, while the results of usage other derivatives are presented in the financial statements in general. Accordingly, the operations with derivatives are not fully presented in the considered reports, the information on them is not detailed. However, IFRS requires disclosure of information about the risk management associated with financial instruments on the basis of which derives the third position: derivatives are used as instruments for managing market risk (which includes currency risk, interest rate risk, commodity risk). And fourthly, derivatives as a risk management tool may be a source of increased risk, the underestimation of which is closely related to serious losses.

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Economics

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DEVELOPMENT PROSPECTS OF THE «ONE BELT, ONE ROAD» PROJECT

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The article focuses on the development prospects of China's «One Belt, One Road» initiative. The article stresses that the launch of the project has marked the emergence of new international relations between countries. The article provides a brief description of the China-Belarus industrial park «Great Stone» as an example of successful international integration.

The ancient civilizations of China, Central Asia, India and Mediterranean region developed robust trade and the exchange of cultural values over two thousand years ago. The cities along the ancient Silk Way were taking new shape, gradually becoming large and bustling trade hubs. The mutual exchange of cultural values and strengthening of the economic relations led to long-standing mutual prosperity between eastern and western countries. The Great Silk Road bridged the gap between the East and West peoples, completely different at that time both culturally and economically, thus showing humanity the significance of international relations (Fig. 1).

Fig. 1. «One Belt, One Road» initiative [0]

Nowadays, humanity is entering a new stage of economic globalization. Market competition is gaining pace, giving a rise to an urgent need for new models of international economic cooperation that could meet all the challenges of the 21st century. In 2013 Chinese President Xi Jinping announced the «One Belt, One Road» initiative. The «One Belt, One Road» initiative is a highly ambitious and promising project that requires considerable international attention. The new Silk Road aims at developing a complex infrastructural network – maritime and land trade corridors that would ensure rapid cargo delivery on favorable terms between countries of Asia, Africa and Europe. The «One Belt, One Road» strategy includes «The Silk Road Economic Belt» that would make it possible to deliver goods from China to Europe through Central Asia and the Middle East and the «21st century Maritime Road» connecting the southern coast of China to the eastern countries of the African continent and the Mediterranean region.

Special economic zones, logistics centers, highways, extensive networks of high-speed rail transport, seaports, gas and oil pipelines and other high-tech infrastructural installations with liquid investments and the absence of trade borders will promote the development of new models of economic cooperation between more than 60 Eurasian countries. «One Belt, One Road» will approximately cover 65% of world population and 40% of Global GDP, thereby becoming the biggest project in human history [2].

The Belt and Road philosophy is based on the desire to develop new international integration mechanisms where each participating country will have a special role to play increasing and diversifying its economic opportunities through close cooperation with China. The cooperation free of the imposition of political conditionality in accordance with the objectives of each country or group of countries is a cornerstone of the Chinese initiative.

The successful implementation of the project will produce geopolitical benefits. Strengthening the position of China in international arena as a host country responsible for the development of the global infrastructure network will be a result of mutually beneficial cooperation underlying the deep philosophy of the project.

The «One Belt, One Road» project is still in its most important early stages of development with the foundation for the long-term international relations being laid. Two issues of economic and ecological nature arise while financial institutions are looking for prospective investors and each country along the route is being closely analyzed.

Part of the Chinese production is going to be exported to resourced countries which will not only help to solve the problem of overproduction and provide new markets with Chinese goods, but improve environmental status of China suffering from serious ecological problems. Adverse changes in natural systems of the countries the production will be exported to can lead to irreparable consequences that even the wealthiest countries would not be able to resolve.

The increasing anthropogenic load requires China to maintain ecological balance on each section of the Belt and Road route during the construction and use of its infrastructure. Special attention should be paid to the waters along the 21st Century Maritime Road trade corridors, since marine resources play a substantial role in the economy of the coastal countries. The state of the maritime corridors will have a great impact on sustainable development and success of the Belt and Road project.

The project needs to comply with the strict international ecological standards and needs to be rigorously monitored by environmental organizations. Since humanity is entering the new millennium people should preserve ecosystems and biodiversity to future generations. Unfortunately, there is still no organization with a special focus on nature protection due to the implementation of the Belt and Road project. China should adopt the best practices of the most eco friendly countries so that it could take responsibility for building a global trade network. There is a need for a special financial institution with the participation of all the stakeholders the main task of which will be investing in environmental safety.

There is a need for a systematic environmental approach to the modernization of the steel and cement production with a view to exporting to the participating countries. It is also important to develop alternative sources of energy that could completely replace harmful traditional sources. It must be understood that the transition to the alternative sources of energy is a gradual process requiring considerable financial inputs, technologies and highly qualified specialists in the energy sector. China is one of the few countries capable of developing an eco-friendly infrastructural network given there are subsequent and well-coordinated actions.

The implementation of such a large-scale infrastructure project has always entailed high risks. Apart from the corresponding experience, high technology and qualified labor force that China possesses, the Belt and Road project requires a well-developed investment plan encompassing all the features of each region and the allocation of financial resources in accordance with the involvement of each country along the route. The project financing is considered by the Asian Infrastructure Investment Bank, the Silk Road Fund, the New Development Bank BRICS and the Asian Development Bank. State-owned Industrial & Commercial Bank of China, China Construction Bank, Agricultural Bank of China and Bank of China are also involved in the funding. If the Chinese financial sector faces problems, not only the countries involved but the whole world economy might be under threat.

The Middle East and the former Soviet Union countries in Central Asia are considered to be the most risky destinations for investment despite the fact that they will have a crucial role to play in the development of the Belt and Road initiative. Military conflicts in the Middle East and the water crisis in Central Asia constitute a threat to the sustainable development of the project. The government of China will probably have to give up on its expensive production in some of the countries in the area or use them only as part of its transit routes. A detailed analysis of the trade corridors and risks at each part of the route, including a financial resources distribution plan based on rationality, will ensure sustainable development of the project and benefit the world economy (Fig. 2).

Belarus is among the countries that participate in the development of new Silk Road. The China-Belarus industrial park «Great Stone» is a vivid example of successful international cooperation based on close mutually beneficial relations between the two countries. The Great Stone Industrial Park is a special economic zone which will account for about 10% of bilateral trade between China and Europe. The infrastructure of the park is a city with highly developed industrial, logistics and residential zones that are designed to create more than 130.000 jobs and places for comfortable living by 2030. The park provides all conditions for doing business and attracting investors. Joint work with China will help to develop the park in the most promising directions of modern economy [4]. The industrial park is considered to be the most substantial project within the framework of the China-Belarus cooperation setting an example to other countries.

Fig. 2. The China-Belarus industrial park «Great Stone» [3]

The park could be seen as a suitable location for the deployment of various types of production. An advantageous geographical location is the most important feature of the park. Close proximity to the Minsk International Airport and the availability of railway and highway networks reinforce and complement the position of Belarus as a link between the CIS and Europe. Friendly relations with Latvia will contribute to enhanced interaction between the Great Stone Industrial Park and Latvian ports, thereby providing the goods with an outlet to the Baltic Sea. In addition to the free flow of goods, investments, labor force and services resulting from the Belarus' membership in the Eurasian Economic Union, various tax incentives are provided in the park. The Great Stone Park has become the first in Belarus to receive the EMAS (Eco-Management and Audit Scheme) certificate. The certificate demonstrates the environmental effectiveness of the park.

Humanity has always strived to discover something that would improve the life of people. The Belt and Road project's priority is to unleash the potential of the cooperation in all fields of modern economy improving standards of living along the route. The success of the initiative depends not only on China, but also on each country involved. In order to achieve high standards of living, all the policy processes must be coordinated and the financial cooperation between all the countries concerned must be deepened. Solid intergovernmental relations and the freedom of capital movement would allow to expand and improve the whole infrastructure creating new jobs and decent incomes. Scholarships and educational exchange programs are a good way to encourage students all over the world. Investments in education would enable to produce highly qualified specialists contributing to the experience and culture exchange.

China faces the challenge of reconciling both extensive and intensive ways of the development of the new Silk Road retaining the deep philosophy of shared prosperity and a balance between humanity and nature. A lot of work is to be done to seek a new innovative technology and new points of convergence in the area of international integration. «One Belt, One Road» is going to become a breakthrough in international relations that will enable humanity to enter a new era of globalization.

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ORGANIZATION AND AUTOMATION OF LOGISTICS PROCESSES IN THE TRADING COMPANY

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Trading companies all over the world, in one way or another, interact with logistics processes. Consideration of these processes in more detail, their correct organization and automation allows the trading companies to rationalize the entire production process and further distribution. The article examines the essence of logistical processes and the software complexes and systems of automation of logistical processes, that are already operating in many countries.

Modern market relations contribute to the rapid adaptation and modernization of all processes in trading companies. Enterprises face the need to improve the logistics system to minimize costs in the production and marketing of finished products. The driving forces of the changes are competition and the growing demands of customers. For the purposeful and efficient management of trade networks, it is necessary to organize the proper management of logistics processes [1].

The main goal of the research is to develop the theoretical foundations of organization and automation of logistics processes in a trading enterprise, as well as to provide a set of practical measures and recommendations to improve their effectiveness in the process of development of logistics activities of enterprises.

The subject of the study are logistic processes and their organization, and automation.

The object of research are systems of organization and automation of logistics processes in trading companies.

The movement of flows in logistics, the creation and maintenance of reserves initiate and support processes and operations. The concept of the logistic process is connected with the construction and functioning of the logistics system. A study was made of the very concept of a "logistical process" on the basis of which the following definition can be proposed: a logistical process is a sequence of operations organized in time and in space designed to fulfill the objectives of a logistics system or its network units, as well as providing consumers with products of the appropriate assortment and quality in the right amount at the required time and place with the accompanying operations for information and financial provision of the flow [2–6].

Next, an analysis of the structure of logistics processes is presented and the types of logistic processes according to purpose and role in logistics are considered, which are subdivided into commercial, marketing, technological and management ones. Also, the processes were divided into complex and elementary, in composition and complexity. The functioning of all components of the logistics process was considered in the interconnection and interdependence, each stage of which is considered separately [7].

The integration of the logistics into the economy is largely a result of the computerization of material management. The computer has become an everyday element of office equipment for workers of various specialties. Computer software makes it possible to solve complex questions at every workplace to process information.

If the information system is automated processing of information, then the technical support includes electronic computing equipment and communication means among themselves. The main part of the technical support in this case is a computer.

Foreign information systems for solving the problems of logistics, marketing, production are distinguished by a great variety of different forms and content.

To improve the organization and automation of logistics processes in trading companies, the original procedure for the organization of logistics services in the company and the management of logistics processes in it [8]. Organization in the structural units of the logistics service is a set of features that provide for the proper operation of logistics processes.

The next point to study is the characterization of automation systems for logistics processes, consideration of the application of automation in various logistical processes.

The goal of trade rationalization based on the concept of logistics is the creation of highly efficient commodity distribution systems capable of ensuring the availability of the right product in the right place, at the

right time, in the right amount, at the minimum cost and at an affordable price. These systems should have a high ability to adapt to changes in the environment [9].

The following is an annotated review of the regulatory and legislative framework regulating the logistics activities and the functioning of logistics processes in the trading company [10].

As a practical example for studying the operation of logistics processes, commercial companies were considered ООО «ЕВРОТОРГ» «ЕВРООПТ» Republic of Belarus and ЗАО «ТАНДЕР» «МАГНИТ» Russian Federation.

The analysis of these organizations and automation of warehouse logistics processes in the warehousing activities of selected companies was carried out.

ООО «Евроопт» carries out direct deliveries of its products to outlets throughout the territory of the Republic of Belarus. In connection with the increase in the volume of supplies, the management of the concern decided to implement a system for automating the operation of the transport logistics division, with the goal of developing the company and improving its efficiency [11]. After a thorough research of proposals for automation of logistics, the company approved the decision to start a joint project with ООО «ТрансСис» and company «ПРАВИА» on the implementation of the software complex MapXPlus [12].

MapXPlus belongs to the class of systems TMS (Transport Managment). The main task of the systems is automation of transport logistics, planning of optimal routes and carrying out plan-factor analysis [13].

As for the trading company «Магнит» [14], an automated inventory management system has already been implemented and is actively operating in its warehouse activities Forecast NOW!

This automated inventory management system allows you to build demand forecasts, determine the optimal stock of goods and calculate the amount of required purchases. Also with the help of this tool you can conduct ABC-XYZ analysis by arbitrary criteria. In addition, you can generate various analytical reports on balances, sales and purchases. For calculations, data from the corporate information system is used, they are unloaded by exchange into the system Forecast NOW [15].

Each of the considered systems has its positive sides for companies using them. For each trading company and the system introduced in it, solutions were found for the development and improvement of warehouse logistics processes.

Effective warehouse management implies the use of optimal information and technical means in all segments of the warehouse economy, uniform distribution of loads to personnel and warehouse equipment, prompt response to any changes in business processes, full integration with related procurement, sales, production and other areas.

The warehouse of the retail operator is a distribution center intended for storage, processing and delivery of consumer goods (food and non-food groups) in accordance with orders of own stores.

To ensure the uninterrupted operation of such a warehouse complex in a round-the-clock mode with minimal losses and maximum quality, only warehouses of classes A and B + equipped with a warehouse management system can.

The introduction of the warehouse management system allows minimizing the risks associated with the human factor and achieving accuracy of 99.9% of all operations performed in the warehouse.

To improve the organization and automation of logistics processes in warehousing, it is possible to advise on the application of bar-coding technology in the warehouse activities of the company «Магнит ЗАО Тандер». Having implemented a bar coding system, the company «Магнит» will get 99% accuracy when entering data. Bar coding is the best tool for a company «Магнит», giving confidence in the consistency of input and input data, and thus significantly reducing the impact of human errors on the data collection process.

Further recommended development for optimization of warehouse activities of the trading network «Евроопт» is the introduction of additional modules that extend the functionality of the WMS-level system to the SCE system (Supply Chain Execution) and as the top of logistics - the SCM system (Supply Chain Management). And also the introduction of modules such as the warehouse and gate management module, the warehouse and gate management module, the introduction of voice selection technology and the processing of commodity flows through the use of RFID tags.

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Economics

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INTERNATIONAL EXPERIENCE OF INCLUSIVE ECONOMIC GROWTH IN THE BELARUSSIAN REALITIES

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The slowdown in economic growth, that can be observed not only in developing but also developed countries, stimulating the adjustment of current financial instruments, economic and social policies, intensifies efforts in strategic areas. These include search for a new model of socio-economic development that can respond to the current challenges that are faced by the economy and society. In this article, the author focuses on the model of inclusive economy, as possible way to stimulate economic growth in Belarus.

Among the measures taken to address the main economic problems of the country's development is the concept of inclusive sustainable growth that has become widely known abroad.

Although this concept was quickly perceived among academics, today there is no proper definition of this concept. For example, the World Bank defines the inclusive growth as a high and sustainable (important condition for poverty reduction), widespread in all sectors of the economy, involving a significant part of labor force and characterized by equal opportunities in access to the market and resources.

The European Commission, when working on the strategy "Europe 2020", means that inclusive growth includes: full use of labor potential, reduction of poverty and its consequences, development of social inclusion, elimination of regional disparity.

In doing so, the author proposes to identify key points in the definition of inclusive growth:

- wider objectives (not only increase in income or GDP);
- comprehensive development of human capital;
- reduction of inequality, poverty;
- the importance of active participation in economic life, and not only in the distribution of income;
- taking advantage of wide layers of the population, especially children, women, old people;
- careful use of natural resources and protection of the environment.

The author emphasizes the concept of inclusive growth. In our opinion, the economy of the Republic of Belarus today faces global challenges that must be taken into account when choosing the strategic direction of economic policy. In addition, indicators of inclusive growth, such as per capita GDP, employment, wages and productivity, should be taken into account. It is also worth mentioning the international experience, which, in turn, can be useful in selecting the main growth drivers.

In order to move towards sustainable inclusive growth, the indicators analyzed are expanding in a number of international ratings. There are considered ecological and social components of sustainable development in the Global Competitiveness Report from the WEF for 2014-2015 [1]. They were broken down into the following groups, presented in Table 1.

Table 1 – Indicators of social and environmental sustainability

Social sustainability parameters	Environmental Sustainability Parameters
Access to basic needs (sewage, drinking water, health care)	Environmental policy (strictness and feasibility of environmental regulation, the number of ratified international environmental treaties, protection of terrestrial ecosystems)
Degree of vulnerability to socio-economic shocks (loss of work, size of shadow economy)	The use of renewable resources (dynamics of wooded areas, surplus fishing, use of water resources)
Social cohesion (Gini income index, social mobility, unemployment rate among youth)	The degradation of the environment (the concentration of particulate matter in the air, the intensity of carbon dioxide emissions, the quality of the environment)

The authors of this comparative presentation of the components of inclusive growth added to the general index of competitiveness (GCI), adapted indicators of social and environmental sustainability for the World

Economic Forum. The basic index is made up of 12 components of competitiveness, which characterize in detail the competitiveness of the countries of the world at different levels of economic development.

These include: the quality of institutions, infrastructure, macroeconomic stability, health and primary education, higher education and vocational training, the efficiency of the market for goods and services, labor market efficiency, the development of the financial market, technological level, the size of the domestic market, the competitiveness of companies and innovative potential.

As the author noted earlier, foreign experience is an integral part of constructive system analysis and the process of introducing the necessary tactics to increase the level of inclusive growth in the state.

As practice shows, in such cases, abroad, policy decisions are made at the state and interstate levels, based on the concept of inclusive growth. At the same time, foreign strategies set quite specific goals in the implementation of the tasks set. Thus, in the European Union's strategic program "Europe 2020" researchers set specific tasks, stressing that the growth of the economies of countries should be intellectual, sustainable and inclusive, with the involvement of all sectors of the economy in the relevant processes. These three components should help each country achieve a high level of employment, productivity and social cohesion.

In the Republic of Belarus there is also a strategy for sustainable economic development. Such a program can provide the necessary sustainable growth of the economy. The National Strategy for Sustainable Social and Economic Development of the Republic of Belarus until is one of such programs.

At the same time, the author analyzed the Belarusian strategy with a foreign strategy of economic development to identify promising areas of development, which to date little or no attention has been paid to the Belarusian economy [2].

Table 2 – Analysis of the component components of NSSD of the Republic of Belarus and the strategy “Europe 2020"

NSSD of the Republic of Belarus until 2030	Strategy "Europe 2020"
Qualitative reproduction of human potential and its effective use	Innovative Union
Accelerated development of high-tech industries and services	Youth policy
Improving the institutional environment and informing a favorable business environment	Development of digital technologies
Growth of economic potential	Appropriate use of resources
Ecologization of production	The industrial policy aimed at globalization
	Development of human capital and increase in the number of jobs
	Policy against poverty

The Europe 2020 strategy stresses the importance of avoiding GDP as a measure of economic growth and social welfare, which in turn takes precedence over the NSSD in Belarus until 2030. There is an important question of the emergence of a new system of macro indicators that could more in detail characterize such components of sustainable growth as economic, social and environmental criteria.

It is worth noting the prevailing bias toward the economic bloc in the NSSD of Belarus until 2030. The existing need for restoring the already disturbed ecological balance and damage to the environment has not been fully taken into account. In our opinion, it was the conflict of economic, ecological and social development priorities that was the challenge that led to the emergence of the concept of inclusive sustainable development as attempts to overcome it systematically.

In addition, the NSSD 2030 program is more voluminous, while the "Europe 020", for example, is more understandable and transparent. On the website of the Europe 2020 concept, everyone can follow the implementation of the goals, make a country breakdown by key indicators, graphically examine the dynamics of the indicators. This allows for constant public monitoring of the implementation of the set goals and objectives within the framework of the concept [3].

However, in two development strategies, only two indicators can be compared: increasing the costs of research and development and reducing the level of greenhouse gas emissions. This comparative characteristic is presented in the Table 3.

Table 3 – Comparison of indicators "Europe 2020" and NSDD 2030

«Europe 2020»	NSSD 2030
Increase the level of investment in research and development to 3% of the GDP of the European Union by 2020.	Increase the cost of research and development to 2.5% of GDP by 2030.
Reduction of greenhouse gas emissions by 20% (possibly by 30%) in relation to the level of 1990	Reduction of greenhouse gas emissions by at least 15% by 2030 (% by 2020)

Modern development is unsustainable, and as a result the nature the quality of the development is questioned. In this relation, according to the concept of inclusive growth: in the Republic of Belarus , as in the country with a small open economy, it is advisable to take into account the world experience in implementing the strategy of inclusive growth to ensure economic growth, taking into account social and environmental consequences. Along with supporting economic growth in the traditional sense, it is necessary to follow new priorities, including creating new jobs, involving all sectors of society in solving development problems, increasing involvement in the dynamics of all territories development, neutralizing adverse environmental impacts. In this regard, the author emphasizes the need for continuous improvement of the existing economic model with a view to developing new approaches that can serve as drivers for moving to an inclusive, inclusive, growth-based innovation.

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UDC 33

POSSIBILITIES OF AUTHORIZED ECONOMIC OPERATOR IN THE EUROPEAN UNION AND THE REPUBLIC OF BELARUS: DIFFERENCES AND PROSPECTS

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The report covers the definition of an authorized economic operator, its status in the European Union, and also in the Republic of Belarus is reviewed. The analysis of main differences in this status was carried out, the prospects for development of authorized economic operator in the European union and Belarus were determined.

It should be noted that trade liberalization is characteristic for the European Union (further – the EU), customs services of the European region place emphasis on simplifications for business. The European Union is the largest trade space in the world. Development and constant modernization in the European Union demonstrates us that the European community tries to keep up to date, thus updating, simplifying and improving existing customs legislation.

The Eurasian Economic Union legislation though contains standards of the Kyoto convention and the European standards now, however needs improvement in compliance with experience of international customs organizations, and in particular with the European Union. For example, it is worth paying attention to the status of Authorized Economic Operator (further - AEO).

According to frame standards of World Customs Organization (further – WCO), Authorized Economic Operator is any legal entity involved in international movement of goods and recognized by national customs authority or on behalf of it as corresponding to WCO safety standards or similar supply system. AEO status has been entered in the Customs Code of the Customs Union in 2010 (this Code doesn't work nowadays, because the Customs code of Eurasian Economic Union has been already ratified). In accordance with the Customs Code of the Eurasian Economic Union (further – EEU) Authorized Economic Operator is a legal entity, which has the right to use special simplifications according to the article 41 of the Customs Code of the Customs Union. In contrast to the Customs Code of the Customs Union producers, exporters, importers, carriers, shipping companies and warehouses of temporary storage can use this status in the EU. In other words, a circle of entities, which can get a status of Authorized Economic Operator in Europe, is wider than in Belarus.

The new Customs code of the European Union (further - CC EU), provides expansion of advantage to Authorized Economic Operators (CC EU still is not accepted finally now, the European customs legislation is regulated by the Implementation provisions to the Code adopted in 2016). They will be given an access to accelerated passing of customs procedures that will allow to submit customs declarations and to pay duties centrally from the place of their establishment. AEO will also be authorized to move goods to other EU member states until all of them are under procedure of temporary storage (i.e. before they get under other customs procedure). Moreover, AEO will be able to benefit by certain refusals and delayed payments on the basis of reduced guarantee (in comparison with unauthorized economic operators who have to provide a full guarantee) [3].

One more important change for AEO concerns terms when goods are released in free circulation. Goods will be considered as released in free circulation as soon as AEO submits a customs declaration (without representation of goods). However customs authorities keep the right to demand necessary documentation and to carry out inspections in rooms where goods or documents are held.

AEO status in the EU works on the territory of all Customs union while AEO registered in Belarus has power only within the territory of the country.

An approach of the Customs Code of the EEU a bit differs from the approach of the Customs code of the European Union according to which economic operator created in the customs territory of the European community and corresponding to the conditions established by CC EU can request a status of AEO.

However at the same time a status of AEO in the EU can be of two levels:

1) AEO – "customs simplification";

2) AEO – "protection and safety".

The first level gives to organizations of the European Union a chance to get advantages from certain simplifications of customs legislation. According to the second level a holder of it should have an opportunity to

use simplifications in a sphere of safety. Introduction of AEO status in the EU is a response of the European Union to requirements of providing safety of international supply chains that are officially presented by Customs and trade partnership against terrorism in the USA and development of Frame standards of safety of World Customs Organization. The purpose of its introduction consists in providing to business its recognition at international level by use of recognized quality mark that shows that a company meets requirements of safety standards of international supply chain and customs control carried out regarding of it is effective and sufficient. An owner of AEO status is not only a reliable partner from the point of financial and customs structures, but also meeting safety standards because he can be considered as "safe" and reliable trade partner [4].

To sum it up, AEO status gives a chance to present a company as a reliable partner, gives more opportunities for business [2]. On the basis of it, while creating standard and legal base for regulation of AEO questions, member countries of the EEU should consider experience of the EU and other countries in questions of simplification and harmonization of customs procedures. Change of preferences for AEO in the Republic of Belarus can make more favorable getting of this status.

Recognition of Belarus AEO in the EU will take place by 2020 in future, that will allow ensuring traffic safety of goods in international supply chains, creating at the same time necessary conditions for removal of excessive administrative load on implementation of trade operations.

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UDC 336.7

CONSTRUCTION OF CORRELATION-REGREGIONAL MODEL FOR MANAGING THE TOTAL RISK

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A correlation-regression model was constructed to manage total bank risk. The model is applicable both to a single commercial bank and to the whole bank sector of the Republic of Belarus.

Management of bank risks is a holistic concept of bank management based on an understanding of the nature of risk as an economic category, knowledge of types of bank risks, risk management methods and development of a risk management strategy. Consequently, the improvement of the system of assessment and management of bank risks is a strategically important area for increasing the efficiency of bank activities in the conditions of accrescent uncertainty in the external environment.

We'll construct a correlation-regression model for organizing a comprehensive effective management of bank risks, the dependent variable of which is the total risk. The model will be constructed according to the data of JSC "Belgazprombank". We investigated various factors that can affect the total bank risk, in our opinion, in order to determine the dependent variables, namely:

1. The refinancing rate;
2. The amount of loans granted to legal entities;
3. The amount of profit;
4. Special reserve for covering losses on assets susceptible to credit risk;
5. Customer accounts in the bank;
6. The bank's equity;
7. The amount of the bank's assets;
8. Total expenses of the bank;
9. Profitability of assets;
10. Profitability of bank services;
11. The amount of the bank's obligations;
12. The amount of assets susceptible to credit risk;
13. Share of distressed assets in assets susceptible to credit risk;
14. The amount of credit risk;
15. The amount of the operational risk.

Since we determined 15 influencing factors, the model would initially take the following form:

$$Y = F(X1, X2, X3, X4, X5, X6, X7, X8, X9, X10, X11, X12, X13, X14, X15), \quad (1)$$

where Y – the calculated value of the total risk; X1 – X15 – our accepted factors.

To construct an econometric model of the total risk, we will observe the following principles of its construction:

– adduction of factors to an acceptable form for the formulation of a future equation;

– each of the factors should moderately or strongly affect the total risk, that is, the correlation coefficient > 0.75;

– elimination of factors that are strongly influence each other (correlation coefficient > 0.85), so-called multicollinear factors;

– formulation of the final regression equation and verification for adequacy by the calculated value of the Fisher coefficient and the tabulated value of the Student's coefficient (Fcal > Ftable).

We bring all of our indicators to the coefficient form by the following transformation to make the model easier to interpret the results:

1. The refinancing rate, the amount of loans granted to legal entities, the profitability of assets, the profitability of bank services, share of distressed assets in assets susceptible to credit risk are put to a general form by dividing the values of the corresponding indicator by 100.

2. The remaining indicators are calculated as a growth factor compared to the previous period.

According to the described above transformations, we obtain the following data (Table 1).

Table 1 – Transformed data for construction of the regression equation for JSC "Belgazprombank"

Index	Date					
	01.12	01.13	01.14	01.15	01.16	01.17
X1	0.45	0.30	0.23	0.20	0.25	0.18
X2	0.80	0.84	0.83	0.87	0.92	0.89
X3	1.32	1.34	0.92	1.31	1.13	0.93
X4	1.78	0.60	0.84	1.75	1.07	0.94
X5	2.71	1.34	0.87	1.00	1.10	0.81
X6	1.25	1.57	0.76	1.09	1.05	1.03
X7	2.55	0.90	0.91	1.23	1.14	0.92
X8	1.94	1.19	0.78	1.13	1.34	0.89
X9	0.02	0.03	0.03	0.03	0.03	0.03
X10	0.20	0.31	0.37	0.42	0.36	0.38
X11	2.91	0.82	0.94	1.25	1.15	0.90
X12	4.62	2.06	1.19	1.34	3.24	1.29
X13	0.02	0.05	0.08	0.04	0.09	0.08
X14	3.00	1.02	1.68	1.12	0.98	0.81
X15	1.03	1.19	1.64	1.19	1.31	1.14
Y	2.88	1.23	1.15	1.12	0.98	0.99

Source: own development based on [1–3].

Now we'll consider the correlation links between the dependent variables (X1-X15) and the actual values of the total risk in Table 2.

Table 2 – Correlation links between total risk and variables X1 – X15

Index	Correlation coefficient to У
The refinancing rate (X1)	0,931
The amount of loans granted to legal entities (X2)	-0,759
The amount of profit (X3)	0,463
Special reserve for covering losses on assets susceptible to credit risk (X4)	0,584
Customer accounts in the bank (X5)	0,975
The bank's equity (X6)	0,285
The amount of the bank's assets (X7)	0,959
Total expenses of the bank (X8)	0,855
Profitability of assets (X9)	- 0,993
Profitability of bank services (X10)	-0,902
The amount of the bank's obligations (X11)	0,960
The amount of assets susceptible to credit risk (X12)	0,800
Share of distressed assets in assets susceptible to credit risk (X13)	-0,767
The amount of credit risk (X14)	0,947
The amount of the operational risk (X15)	-0,477

Source: own development based on table 1.

The correlation coefficient as described above, shows how closely the two factors are related quantitatively. The sign (–) means that there is an inverse link, the sign (+) is a direct link.

Thus, by analyzing Table 2 it can be seen that 1,2,5,7,8,9,10,11,12,13 and 14 indicators strongly correlate, the others correlate poorly.

We'll calculate the coefficients of determination (Table 3). The coefficient of determination shows how much the variation in the values of factor Y is due to the variation of the values of the factor X.

Analyzing Table 3 we see that the highest error rates are observed with the indicators X3, X4, X6, X15. Accordingly, we exclude them from the future model.

Table 3 – Values of the determination coefficient

Index	Determination coefficient to Y
The refinancing rate (X1)	0,868
The amount of loans granted to legal entities (X2)	0,546
The amount of profit (X3)	0,214
Special reserve for covering losses on assets susceptible to credit risk (X4)	0,341
Customer accounts in the bank (X5)	0,952
The bank's equity (X6)	0,081
The amount of the bank's assets (X7)	0,920
Total expenses of the bank (X8)	0,731
Profitability of assets (X9)	0,947
Profitability of bank services (X10)	0,988
The amount of the bank's obligations (X11)	0,813
The amount of assets susceptible to credit risk (X12)	0,921
Share of distressed assets in assets susceptible to credit risk (X13)	0,638
The amount of credit risk (X14)	0,898
The amount of the operational risk (X15)	0,227

Source: own development based on table 1.

Thus, the model (1) takes the form:

$$Y = F(X1, X2, X5, X7, X8, X9, X10, X11, X12, X13, X14). \quad (2)$$

Next, following the methodology for constructing this model, we'll consider the interdependencies between the selected indicators to exclude the multicollinearity of the indicators. Let's construct the table on correlation coefficients between the left dependent variables (Table 4).

Table 4 – Correlation coefficients between dependent variables that affect the result indicator (total risk of JSC Belgazprombank)

	Y	X1	X2	X5	X7	X8	X9	X10	X11	X12	X13	X14
Y		0,935	-0,808	0,964	0,930	0,82	-0,99	-0,89	0,930	0,75	-0,81	0,95
X1			-0,709	0,971	0,857	0,88	-0,94	-0,97	0,85	0,87	-0,69	0,86
X2				-0,656	-0,55	-0,37	0,78	0,68	-0,56	-0,29	0,67	-0,81
X5					0,944	0,93	-0,96	-0,93	0,94	0,88	-0,77	0,88
X7						0,91	-0,92	-0,80	0,99	0,84	-0,73	0,90
X8							-0,82	-0,81	0,89	0,95	-0,69	0,72
X9								0,93	-0,93	-0,79	0,72	-0,96
X10									-0,79	-0,83	0,58	-0,82
X11										0,83	-0,71	0,91
X12											-0,46	0,70
X13												-0,65
X14												

Source: own development based on table 1.

Analyzing Table 4, we conclude that the indicators X1, X5, X7, X8, X9, X14 duplicate each other and, consequently, we will not take into account these factors in our model.

After excluding these factors from the model, the table will take the following form (Table 5).

Table 5 – The transformed table of correlation coefficients

	Y	X2	X10	X11	X12	X13
Y		-0,808	-0,89	0,93	0,75	-0,81
X2			0,68	-0,56	-0,29	0,67
X10				-0,79	-0,83	0,58
X11					0,83	-0,71
X12						-0,46
X13						

Source: own development based on table 4.

The next stage is the construction of a multifactor model. By using the Microsoft Office Excel 2016 program, the following equation was obtained:

$$y = 3{,}125 - X2 * 1{,}328 - X10 * 3{,}641 + X11 * 0{,}693 - X12 * 0{,}101 - X13 * 0{,}932. \quad (3)$$

Let's check the constructed model for adequacy.

To do this, let's calculate the calculated value of the Fisher coefficient. For this we use the formula (4):

$$F_{cal} = \frac{\sum(y_{i,cal} - y_{av,cal})^2}{m} * \frac{n - m - 1}{\sum(y_i - y_{i,cal})^2}. \quad (4)$$

where $y_{i,cal}$ – the calculated value of the refinancing rate according to the model; y_{av} – average estimated value of the refinancing rate; m – number of factors (only exogenous), n – number of observations.

Compare this indicator with the Student's coefficient Ftable, which is determined depending on the degrees of freedom (number of observations - 1) and the probability with which we can guarantee the reliability of the calculated values to be actual.

Thus, with a probability of reliability of 95%, this indicator is 2.0395.

The calculated value of the Fisher coefficient is 2.7155.

Proceeding from the fact that Fcal> Ftable, the model (3) is adequate.

So, with a probabilistic error of 5%, it can be applied to the practice of the bank under investigation. Note that the specified error rate of 5% is quite low according to modern theoretical studies in the financial sphere. With the help of this model, measures can be developed to minimize total bank risk, namely, indicators that are most appropriate in specific conditions and their impact parameters for changing the dependent indicator (total risk).

A similar model can be built for each bank, and in conjunction with the above studies on groups of banks and the identified relationships within groups, it is possible to develop practical recommendations for reduction of the risks of the whole bank sector of the Republic of Belarus.

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THE INVESTMENT POLICY OF THE OLYMPIC GAMES: COSTS AND THE PROBLEM OF PAYBACK

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The article is devoted to the investment policy of the Olympic Ggames. The largest investments in the Olympic Games in history, as well as the economic effect of the games are considered. It is noted that the positive effect of the Olympic Games, to a greater extent, depends on attracting sponsorship investment and private business.

Professional sports is always an important element of world politics, business relations and an instrument of ideology, an important economic resource that has a direct impact on the level of development of the national economy.

The President of the Republic of Belarus and NOC A.G. Lukashenko paid a lot of attention to the problems of development of sports industry and its economic dimension, speaking at the Olympic meeting, said: "Sport is the most important sector of the economy. It should work with benefit and bring results. We're not rich enough to waste money. The situation requires actions to improve this sphere, to eliminate the negative factors that prevent the effective use of funds."

The evolution of professional sports as a sphere of economic activity is based on the economic relations of society. In modern conditions of transformation of society this kind of economic activity can be considered as a potential sphere of investment of material, labor and financial resources, which the economy has [2, p. 67].

Over the past decades, there have been works that analyze the development of market relations in the sports industry. Most consistently and fully these problems are covered in the works of foreign scientists, doctors of philosophy, who studied from different points of view the different directions in Olympic sports.

The Olympic economy was studied by such scholars as Marion Hambrik, which together with Ann unusual: none (Louisville University) [6] have analyzed consumer behavior in social media communities during the Olympic Games. Benoit séguin (University of Ottawa) and Norman O'reilly (Laurentian University) [9] solved the problem of the integration of marketing programs and brand management in the Olympic activities with the focus on consumers. Professor Ronald MacCarville (University of Waterloo) [8] studied consumer behavior at the Olympic Games on the subject of purchase of products (goods, services) to sponsors, using the extended theory of planned behaviour of Ajzen and proposed a theoretical model for the decision of consumers to purchase.

It is noticed that the problem of return on investment in professional sports, at both the national and the international level have been sufficiently covered [3, p. 76], which negatively affects the economic development of the industry of professional sports as a whole.

The priorities and optimal amounts of public investment in the human capital of the sports industry are considered in the areas where the possibility of attracting private investments is not possible or unreasonable, and in other situations it is more appropriate to improve market mechanisms, and in turn, the stimulation of private investments on the basis of tax and credit mechanisms [4, p. 68].

Holding the Olympic Games, as well as any major sporting events in the world, involves investing significant costs for the organization and conduct of them (Fig.). It must be emphasized that as a rule, originally laid down budgetary allocations for the Olympic Games, do not cover all costs (Table).

To structure the economic effect from carrying out of sports actions of world level, we can distinguish the following indicators:

- job growth;
- dynamics of GNP;
- investments in the organization of events;
- attracting foreign capital.

Taiwanese scientists, Huai-Chun Luo (Yuan Ze University), Professor Chengli Tien (National Taiwan pedagogical University) and Hsiou-Wei Lin (National Taiwan University) noted [10] that the economic opportunities from Olympic Games for countries of the organizers, effectively manifest in the short term, the improvement of indicators such as gross domestic product, productivity and reduce unemployment.

The process of planning and organization of commercial activities in professional sports can be described as a system of economic relations, with the ability to generate income. For transformation of sporting event

from category of gratuitous representation into the full-fledged business project which contains in the basis self-repayment and increase of the income, the functionaries making managerial decisions need to look for new creative and pragmatic approaches, relying on eventual opportunities and determinants of production in the industry of professional sport [1, p. 278], including the Olympic games.

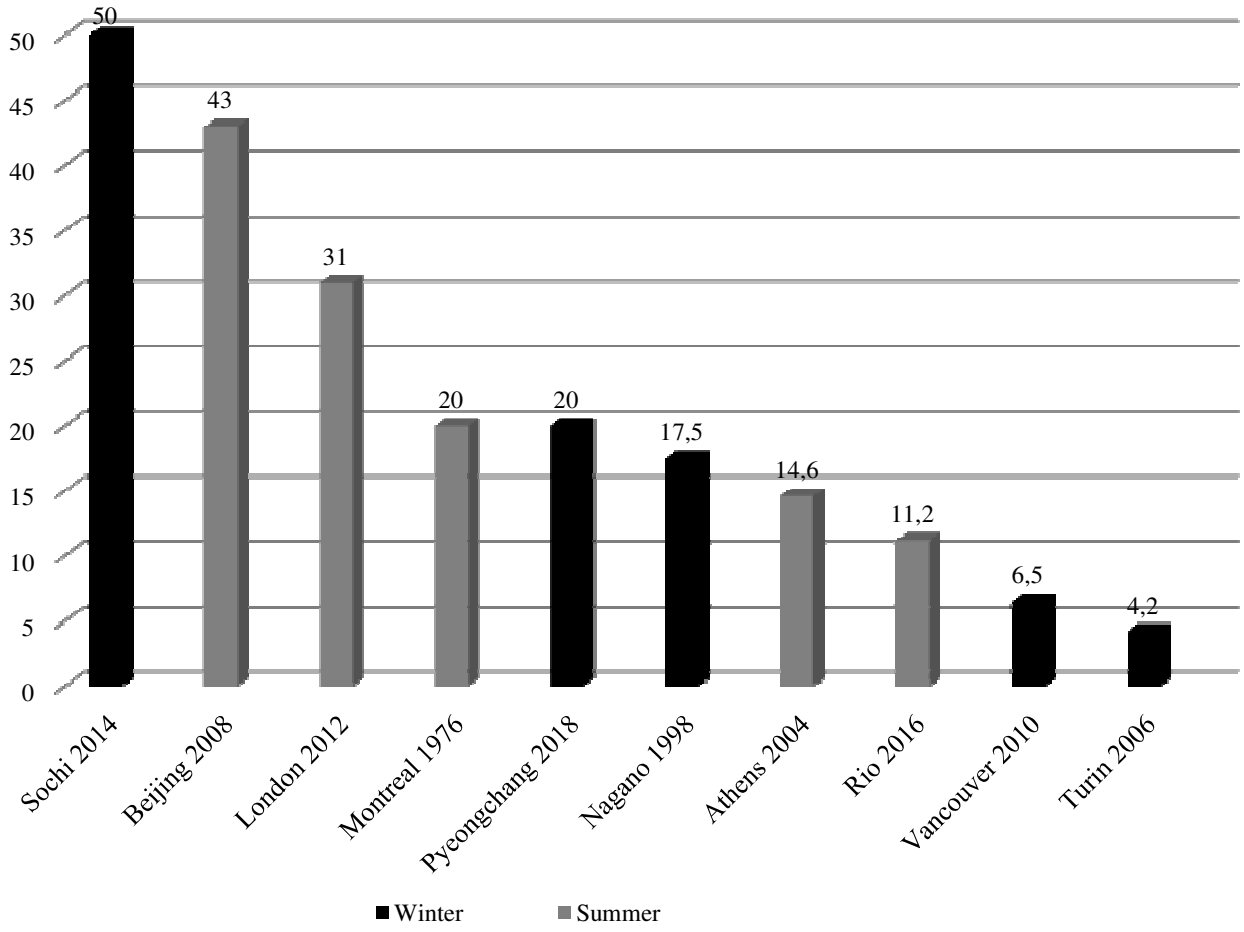

Fig. The biggest investment in the Olympic Games in history, billion dollars
Source: own development based on data analysis [5].

Table – The financing of the Olympic games

Year	Holding city	Spending on the plan, billion dollars	The real cost, billion dollars	The level of state funding	Economic effect of the event
1976	Montreal	0,31	1,5	significant	negative
1980	Moscow	–	3	high	non-material loss
1984	Los Angeles	0,36	1,2	low	profit
1988	Seoul	1,7	4	low	profit
1992	Barcelona	1,8	3	average	non-material loss
1996	Atlanta	1	1,8	low	insignificant profit
2000	Sydney	2,3	4,1	average	insignificant profit
2004	Athens	1,6	11,6	high	loss
2008	Beijing	17,3	43	high	loss
2012	London	15,2	19	average	insignificant profit
2016	Rio de Janeiro	4,6	11,2	high	loss

Source: own development based on data analysis [7].

All of the above, it can be concluded that the positive effect of the Olympic games or major international sporting events, to a greater extent, depends on the possibility of attracting sponsorship investment and private business. The state appropriations, as a rule, are aimed at creating the institutional framework to attract such investors to finance the games.

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Economics

UDC 657

METHODS FOR CONDUCTING AUDIT OF CONSOLIDATED FINANCIAL STATEMENTS

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The article discusses the methods for conducting audit of consolidated financial statements. Features of auditing of such forms of the reporting as the consolidated statement of financial position, the consolidated statement of profit and loss, the consolidated statement of changes in equity, the consolidated statement of cash flows, notes to the consolidated statements are reflected.

In the current trends in the development of the world economy and the emergence of Belarusian organizations on the international market, new groups of organizations are emerging or be integrated, forming holdings with subsidiaries and dependent business companies. The result of this process was the preparation of consolidated financial statements.

The purpose of the audit of the consolidated financial statements is the expression of the auditor's opinion whether the consolidated financial statements have been prepared in all material respects in accordance with the National Accounting and Reporting Standard №46.

Despite the variety of scientific works on the audit of consolidated reporting by such authors as R.A. Alborov, Yu.A. Danilevsky, V.I. Podolsky, L.V. Sotnikov, A.D. Sheremet and many others, the issue of methodology for auditing consolidated financial statements remains poorly understood.

Consolidated financial statements understood to be financial statements compiled by a group of organizations as accounting records of a single entity. Such statements present the group's profit and loss, assets and liabilities as a whole, without taking into account any transfers of income or debts between them.

The parent company, on the basis of the individual reporting provided to it by each of its subsidiaries, prepares consolidated financial statements and submits them to its chief, owners, shareholders, creditors, investors and other persons. Consolidated statements prepared by the parent company in the forms established by it independently.

For example, in the Republic of Belarus, the obligation to prepare consolidated statements is established by the law of 12.07.2013 № 57-Z "On accounting and reporting", Resolution of the Ministry of Finance of the Republic of Belarus of 0.06.2014 № 46 "On approval of the national standard of accounting and reporting "Consolidated financial statements". This applies to such organizations as holding; economic society and its unitary enterprises, subsidiaries and dependent economic companies; unitary enterprise and its subsidiaries unitary enterprises [1].

One of the most important forms of reporting of the company is its consolidated statement of financial position. Organizations united in a group of organizations should apply the same methods of accounting in those reporting periods for which consolidated financial statements are prepared. If the acquisition date does not fall within the reporting period or coincides with the beginning of the reporting period, the consolidated statements are made by summing the indicators of individual reporting of the parent with the corresponding indicators of individual reporting of its subsidiary, except for indicators arising in connection with the commission of intra-group transactions between these enterprises, which are shown in the consolidated statements in order. If the acquisition date falls in the accounting period does not coincide with the beginning of the reporting period, consolidated accounts drawn up by adding up the scores of individual statements of the parent company with the corresponding indices of the individual statements of its subsidiaries formed for the period from the acquisition date to the end of the reporting period, except those arising in connection with the commission of intra-group transactions between these companies, which are shown in the consolidated statements [1].

If a group, member uses accounting policies other than those used in the consolidated financial statements to account for similar transactions and events in similar circumstances, the group member's financial statements should being adjusted accordingly to ensure that the group member's accounting policies are consistent with those of the group.

In the notes to the consolidated statements, information on the existence of related parties is to be disclosed regardless of the transactions in the reporting period between these related parties.

The composition and correctness of filling in forms of the consolidated statements, their interrelationship, timeliness of its representation, ensuring comparability of indicators for the accounting period with indicators for the corresponding period of the previous year are checked. In addition, the auditor pays special attention to checking the timeliness and correctness of error correction in the reporting.

When checking the consolidated statement of profit or loss, it should be remembered that the elements of information generated in the accounting information on the financial results of the company are income and expenses of the company.

During the audit and analysis of the indicators of the consolidated income statement, the auditor checks:

- completeness and reliability of incomes and expenses of the enterprise for the accounting period;
- correctness of determination of size of indicators of profit (loss) of the enterprise.

When checking and analyzing the data of the consolidated statement of changes in equity, which contains information on the balances at the beginning and end of the year of funds and reserves created in accordance with the legislation of the Republic of Belarus and the constituent documents, their changes during the year, as well as the amounts of profit and its use.

Checking the data of the consolidated statement of cash flows, which are formed on the basis of flows of cash and cash equivalents received in group and out group, that is, consolidated cash flows are presented as cash flows of one entity at the beginning and end of the reporting period in the context of the operating, investing and financing activities.

An obligatory element of the composition of the consolidated statement of financial position is the notes to the consolidated financial statements, which provide data on indicators that, are not reflecting in the forms of the consolidated report.

By checking and assessing the notes to the consolidated financial statements, the auditor must ensure that its content meets the requirements of the law, namely, availability in the notes:

– description of structure of group of the organizations with indication of the list of the organizations united in group of the organizations, dates of acquisition by the parent enterprise of the subsidiaries and associated enterprises expressed as a percentage of participation of the parent enterprise in authorized capital of subsidiaries and associated enterprises;

– description of the main activities of a group of organizations, the main indicators of its activities;

– methods of accounting adopted by a group of organizations;

– additional information on the articles of assets, liabilities, equity, income, expenses, presented in the order in which these items are shown in the forms of consolidated financial statements;

– additional information that is not contained in the consolidated reporting forms, but is relevant for understanding the consolidated reporting by its users;

– other information disclosed in the notes to the consolidated statements is prescribed by law [2].

The necessary check is the correspondence of the data of the final balance to the turnover and balances on the accounts of the General Ledger. In this case, the auditor may fill in the audit statements.

Also the correlation of indicators of all forms of consolidated reporting is evaluating. However, in some cases, there may be differences that must be justified.

The auditor can also check the compliance of the applicable accounting reporting forms with the requirements of the legislation.

The work during the control of the consolidated statements can be dividing into two stages. During the first stage of the audit, it is necessary to identify the composition and content of forms of consolidated reporting. The second stage of the audit involves the audit of each form of consolidated financial statements, as well as the interconnection of their indicators.

Based on the above methodology, the following consecutive audit of consolidated financial statements can be proposing (fig. 1).

Based on the results of the study, the methods for conducting audit of consolidated financial statements reviewed. A consistent of auditing the consolidated financial statements was proposed. The complexity of the methodology will improve the quality of the consolidated financial statements.

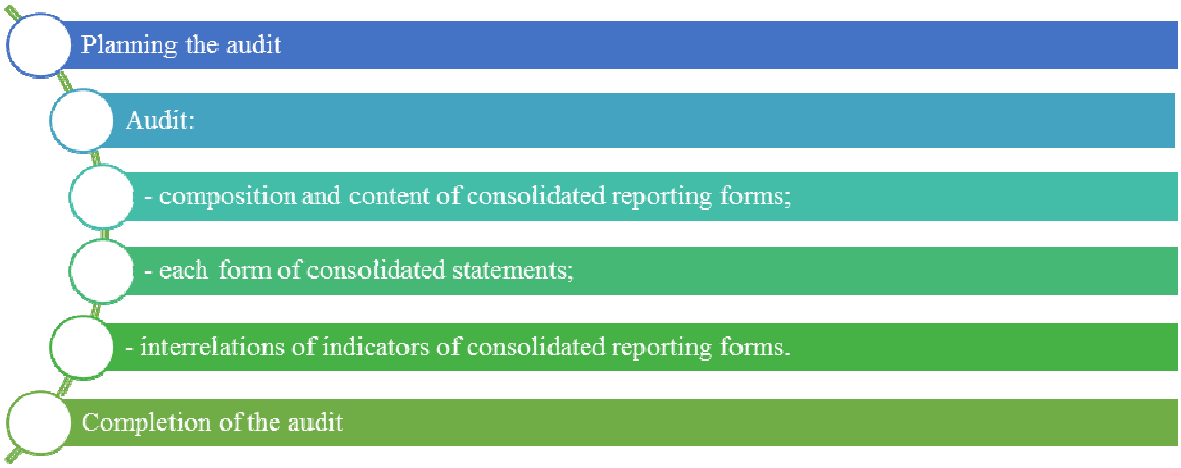

Fig. 1. The sequence of auditing the consolidated financial statements

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THE INTERNATIONAL SUPPLY CHAINS MANAGEMENT OF THE PRODUCT IMPLEMENTATION: THEORETICAL ASPECT

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In the context of the economic crisis, increased competition on world markets, companies should optimize the system of corporate governance, the most important area of which is the supply chain, both in the international procurement system and in the distribution system. Forming the international supply chain, company managers and managers must take into account all logistical risks. Today, international markets have a complex and diverse structure. Delivering goods to them, we should consider different options for delivery, deal with a large number of intermediaries, etc.

In the process of globalization of the modern economy, an increasing number of enterprises are seeking to develop foreign markets, thereby asserting the leading positions in their industry. Entering the business on the international arena allows attracting new customers, reducing the risk of losses, increasing the competitiveness of the enterprise and increasing its capitalization.

Modern supply chains management allows reliable control and direct commodity, as well as interconnected information and financial flows from primary suppliers, producers and sellers of goods to the end customers within the agreed time. Supply chains management and logistics can be understood as a tool that provides preparation, execution and completion of commercial transactions. Reliable supply chains ensure the continuity and sustainability of production and sales of enterprises in the international market [1].

At present, the development of supply chains is a characteristic feature of the development of the economy and entrepreneurship. Cargo flows of various goods are the basis of the material base of almost all forms and types of entrepreneurship. Before becoming a commodity, reaching the market or its consumer, materials and goods pass through many warehouses and cargo terminals, and are transported by various modes of transport.

Competent formation and supply chains management at the international level requires a clear understanding of their essence. Before analyzing the prerequisites for an enterprise to enter the international market, it is necessary to determine the concept of "supply chain" and "distribution".

The beginning of research on supply chains management was made by the consulting company “Oliver and Weber” in 1982. The supply chain was determined by the foreign experts Christopher and Mentzer in the 1990s. Christopher's definition in 1992 was the following: "The supply chain is a network of connected but independent organizations working together and coordinated in order to organize, manage and improve the material and information flows from the supplier to the end user". The definition of Mentzer in 2001: "The supply chain is a network of autonomous organizations (suppliers, manufacturers, wholesale and retail trade companies) through which materials and components are purchased, transformed into finished goods and delivered to end users" [2, p. 10].

From the point of view of logistics, the supply chain consists of a number of activities and organizations through which materials pass when moving from entry-level suppliers to end-users. The key role in the supply chain is played by the relationship between partners [3, p. 189].

Supply chains management is a strategy for shaping the entire supply chain, including the actions of all partners involved in the promotion of cargo flows [2, p. 11].

Distribution in logistics is a complex logistical activity consisting in promotion of production from manufacturers to final consumers, organization of distribution of production in a segment, on the territory, organization of sales, pre-sales and after-sales service.

There are several views on distribution as a process on the part of the supplier and the distributor itself. For the distribution company, distribution is the organization of the movement of goods from the producer to the buyer and the distribution of goods in a certain territory. Distribution for a product supplier is the process of creating a sales management system in different channels. In a broad sense, distribution is distribution [4].

Very often, when it comes to managing distribution, they only consider optimization and delivery control. In other words, it is a function of logistics in its pure form [5].

International companies, because of their size, complexity and scale of operation, apply the best management practices that exist around the world. Today, Apple, McDonald's, Coca-Cola and many other

market leaders in different industries choose to create a supply chain as the main form of managing the flow of materials, information and values. Understanding the constituent elements of such supply chains gives a basic understanding of how they function anywhere in the world.

The supply chain of an international company exists in each separate unit that carries out activities for the production of finished products or services [6, p. 248].

From a functional point of view, the supply chain can be characterized by the set of elements shown in figure.

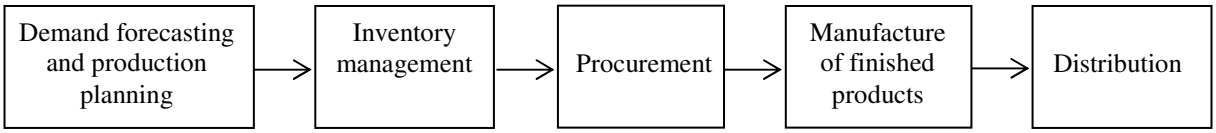

Fig. Elements of the supply chain

Source: own development based on the source [6, p. 248].

Supply chains management on a global scale is an extremely complex process, especially since there are many options for conducting international trade: from the traditional orientation to export-import operations to the implementation of the concept of "enterprise without citizenship". There is no single universal model for such corporate governance systems. Each enterprise finds its own solutions. A feature of the current stage of logistics development is the desire of manufacturers and large wholesalers to own the entire sales network, since it provides full control over the effectiveness of product promotion, prices, customer service level. In developed countries, there is a different trend - the active use of logistics intermediaries called outsourcing [7].

Each international company independently decides how to deliver the products to the point of direct sale: from direct deliveries from the manufacturer's warehouse to the retail point to the use of complex schemes involving regional and international distribution centers that maintain the required level of insurance stock of the finished product.

Regardless of how the distribution network is built in an international company, the following objectives are set before it:

- ensuring the minimum period of production from the manufacturer to the end user;
- ensuring optimal costs for distribution activities;
- availability of a sufficient number of points of sale of products to all interested customers;
- the ability to quickly replenish goods at points of sale [6, p. 275].

The problem in distribution is more often formulated as follows: "As constantly increasing the volume of orders, do not overload warehouses with non-marketable goods"?

The client is ready to wait for a while, but as a rule, it is less than the time it takes to produce and deliver the goods. And the existing practice, when the distributor buys a place on the shelves of the store, knowing exactly that only the goods that are on the shelves are sold, makes ordering in large lots. This helps to ensure the constant availability of goods, to achieve large discounts and save on transportation.

But the demand is rather difficult to forecast and, if we do not guess, large stocks of non-moving goods will be stored in warehouses. To solve this problem, statistics on previous years are used, both their own and others'. Having obtained some figures, having analyzed the obtained regularities, one can make a prediction. Moreover, the more data, the more complex the algorithms, the more accurately the forecast is expected. But if everyone could make good predictions, then there would be no sales, and there would be no shortage. It's like a lottery, someone is lucky, but most do not guess the right combination of numbers.

Solutions developed by the theory of constraint systems for distribution, allow you to abandon forecasts. The companies that applied this approach multiply the turnover time, thereby increasing the net profit.

For a long time, the world's leading distribution companies realized that the real benefits come from the system approach, when the whole chain, from the manufacturer to the retailer, is integrated into a single system. But, there are still disputes about the methods of implementing this strategy. Adherents of global automation see a solution in combining the information systems of manufacturers, distributors and sellers. And even world and national organizations have been established that unite companies that use this approach, the purpose of which is the development of common standards for the exchange of information. Written complex expensive programs that automate even the registration of the order for the next batch of goods, based on the fact of sale. Others advocate the principles of a "lean" approach. Using such tools as "just in time" and "kanban",

they build a so-called "pulling" supply system, instead of the more "extrusive" today. The constraint theory takes the best and develops these two approaches, allowing you to increase the turnover of goods and, at the same time, significantly reduce its inventory. Without the high costs of expensive software and in a very short time, constraint theory helps to increase profits by maximizing the company's potential.

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DEVELOPMENT PERSPECTIVE OF THE ECONOMY OF THE REPUBLIC OF BELARUS IN GLOBALIZATION CONTEXT

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The article presents the impact of globalization on the economic system and essence of the "new economy". It identifies the role of human capital in these conditions. It defines the role of marketing innovation in the development of the logistics system as a factor of competitiveness in the context of globalization.

The development of the international economy at the present stage is characterized by globalization.

Economic globalization is the process of increased economic integration between countries, which leads to the merging of separate national markets into one world market. Economic globalization can be viewed from both positive and negative aspects.

Economic globalization comprises the globalization of production capacity, markets, technologies, corporations and industries [1]. This process covers by labor markets and capital. In these markets competition is becoming tougher.

In the last 20–30 years the world has witnessed a rapid increase in the pace of globalization. This surge is largely inspired by the process of integration of the economies of developed countries with those developing of the countries. These phenomena are helped by the process of foreign direct investment, reduction of trade barriers and modernization of the economies of developing countries.

Globalization at the present stage is connected with the manifestation of the international new economy – the knowledge economy. A characteristic feature of new economy is the rise of intangible assets (services and technologies), and the reduction of the role of tangible assets. Knowledge economy is based on new information technologies, new business processes is an important factor of increase of competitiveness of each country [2].

The main feature of the "new economy" is the development of intellectual capital and its connection with other major factors of production that the crucially separates this economy from all the previous ones, and requires the use of new forms of management.

The development of the new economy in any country is connected with the improvement of management in industries with a high share of intangible human capital in information and communication technology, education, science and intellectual services (consulting). As a result of improving management in these areas in the context of globalization, the country receives enormous benefits – increased productivity, income, reduced unemployment and inflation. Effective management in these areas provides a synergistic relationship between benefits in technology, business practice and economic policy, and is evident from the level of the individual enterprise to the level of economic management in the country as a whole.

Thus in the context of globalization, a new order of socio-economic relations is being formed, where the objects of management are: human capital and information technology, innovation, science. The development of each of these objects is inextricably linked to scientific and technical progress, which takes into account the efforts of the countries in the world to use combined scientific and technical capacity of the international community.

Without improving management in these areas it is not possible to ensure the development of the country on the principle of the formation of the new economy, and it is not possible to provide competitive advantages for the country in the globalization context.

For the Republic of Belarus the issues of adaptation to globalization challenges and of improving management in the sphere of formation of the new economy at the present stage are a priority. This relevance is especially manifested in terms of the prospects of Belarus's joining the World Trade Organization (WTO), which makes national economies more open and vulnerable.

The basis of cultural and economic life of the people is the manufacture of goods, provision of services, provision of information and their mandatory implementation in the relevant markets. Services, goods and information create profits, which in their circles what economists call utility, and which allows the purchaser to satisfy. Decided to celebrate the four types of basic utilities, which set the tone of the commercial relations between producers and buyers of the products: form, time, place and possession [3].

Logistics system is designed to accelerate the process of meeting those needs. Logistics system is an adaptive feedback system that performs certain logistics operations. It usually consists of several subsystems

and has developed relationships with the external environment [4]. One of the major subsystems of the logistics center is specialized enterprise, whose main functions are the processing and storage of cargo, customs clearance, information services. Logistics centres are created to allow with minimal costs to deliver products from suppliers and distribute them to stores in optimal quantities. The maximum effect for optimum material flow can only be achieved with proper integration of logistics centers in the logistics network. This effect can only be achieved through innovation, as in any economic system [5].

The concept of "innovation" is interpreted in different ways. Initially, an innovation is "creating new." In a broad sense, the term "innovation" is commonly understood as a profitable use of the innovations that manifest in the form of new products and services, technology, socio-economic and organizational and technical decisions of industrial, financial, marketing, administrative or other nature.

Marketing innovations is an important form of innovation. Marketing innovation can be called implemented new or significantly improved marketing methods, covering significant changes in the design and packaging of products, presentations of products and a new method of sales, works and services; representation and promotion in markets, the formation of new pricing strategies.

Marketing innovation includes the introduction of a new method of marketing, a significant change in design or packaging of a product in the substitution product, its promotion on the market or methods of price setting. They can relate to any kind of marketing (the design and packaging of the product, its placement, pricing, promotion) if it is used by the enterprise for the first time.

Examples of marketing innovations can be:

– design and packaging;

– placement (sales channels) – the first representation of the product after licensing, the beginning of direct selling or exclusive retailing;

– the implementation of a new concept product presentations;

– the introduction of a personalized information system, for example, based on loyalty card customers to tailor the products to meet the specific needs of individual consumers;

– pricing – introduction of a new method that allows customers to choose the product on the desired characteristics on the Internet site of the enterprise, and then find out the price of the selected product; the first use of the internal offer of goods, available only to owners of a credit or incentive cards store;

– promotion – the first use of the trademarks; the first product showing in the videos or television programs; introduction of a fundamentally new brand name for product positioning in a new market.

Activities in logistics centres are important preparation for the introduction of marketing innovations.

Preparation of marketing innovation - activities relating to the development and implementation of new marketing methods includes the acquisition of external knowledge and capital goods directly related to marketing innovation.

Preparation of marketing innovation covers the activities associated with the development and implementation of new marketing methods not previously used. This includes the development and planning of new marketing methods and various implementation. The activities related to marketing innovations include only what is connected with development and introduction of new marketing methods, but it does not include the cost of using these methods in the daily activities of a logistics center (expenditure on advertising campaigns, sales promotion or sponsorship in line with a new method of marketing). It should be noted that this category includes also the acquisition of diverse knowledge from external sources, machinery, equipment and other capital goods, as well as training directly related to marketing innovation.

Preparation of marketing innovation may include preliminary market research, market tests and launch advertising campaign with regard to bringing to market a new or significantly improved goods and services.

Consider the use of marketing innovation in logistics centre "Brest-Beltamozhservice."

The logistics center provides services such as terminal handling, freight forwarding, international cargo transportation, customs formalities as a customs representative, services with the status of the authorized representative, prior notification of customs authorities of customs and the European Union, insurance, certification of products etc.

Functional areas of a logistics centre are: sales, marketing, staff.

The purpose of innovation, of course, aimed at achieving the objectives of the logistics center to General development-oriented, market expansion, competitiveness, etc.

For example, in the logistics centre to innovate with the commercial and marketing dominant (increase of labor productivity of employees of marketing services).

If to learn more about offer the services of a logistics center "Brest-Beltamozhservice", it is possible to see, that introduced marketing innovations such as methods, allowing customers to choose the product on the desired characteristics on the Internet site of the enterprise, and then find out the price of the selected product.

Analyzing the activities of the logistics center, we can distinguish that it is implemented and used such marketing innovations as the appointment rates. This involves the introduction of a new method that allows customers to choose the product on the desired characteristics on the Internet site of the enterprise, and then find out the price of the selected product, the first use of the method of adjusting prices of goods or services in accordance with the demand for them.

Thus, to improve the efficiency of logistics center, it is possible to suggest the implementation of another marketing method and monitoring of economic indicators after the implementation of the innovation. For example, you can change the packaging of goods in the warehouses of the center for more convenient storage and transportation of goods.

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THE BUSINESS PROCESSES MODELLING OF THE TRANSPORT ORGANIZATION

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The paper describes various business processes in logistics, their classification and programs for modelling and reengineering them. For the example of OJC "Belmagistralavtotrans" the process of modelling business processes was presented for a specialist in freight forwarding and a specialist in customs clearance.

The development of technology, and at the same time, production, as a consequence, of other spheres of life activity, is natural. An integral part of development is the improvement of system, i.e. removal of unnecessary elements, and most importantly, optimizing the system. Such work is possible only if the system is divided into parts, which are subject to detailed analysis and adaptation. This analysis is possible when applying business processes (BPs). Modeling of business processes helps to solve two problems at once:

1. Study of business. Graphic representation in the form of schemes allows to understand the features of the company's work and identify possible "bottlenecks" quickly.

2. Providing visibility. Schematic representation of the company's work helps the head and owner of the business to understand the essence of the problem much quicker and evaluate the proposed solutions.

So, let's look what is meant by the concept of a business process.

A business process is a collection of related, structured activities or tasks that produce a specific service or product (serve a particular goal) for a particular customer or customers. It may often be visualized as a flowchart of a sequence of activities with interleaving decision points or as a process matrix of a sequence of activities with relevance rules based on data in the process [1].

The business process is a stable, purposeful set of interrelated activities (a work sequence) that, by a certain technology, transforms the inputs into outputs according to certain rules with the help of certain mechanisms [2].

A business process is a set of interrelated activities or works directed into creating a specific product or service for consumers. Flowcharts of business processes are used as a graphic description of the activity. [3]

Thus, we can say that the business process is a regularly repeated sequence of interrelated activities (operations, procedures, actions), in which the resources of the external environment are used, value is created for the consumer and the result is given to them.

To specify the sphere, we list the business processes that take place in logistics:

– product movement planning (part of the planning and management process);
– delivery of products from a manufacturer or a supplier (part of the resource process);
– maintenance of warehouse accounting of the received cargo (part of the resource process);
– delivery of goods to stores (part of process of marketing products);
– control over the movement of commodity flows (an integral part of planning and management process).

The simplest approach to the classification of business processes divides them into groups [4]:

Primary processes (main processes) are the main and value-creating processes of an enterprise. These processes permeate the whole company, from the consumer to the suppliers.

Supporting processes (auxiliary, providing processes) are necessary to ensure the main processes.

Developing processes (processes of management and development) are processes that allow to create a chain of values in the main and in auxiliary processes at a new level of factors.

A more detailed classification of business processes [4]:

– main processes;
– associated processes;
– auxiliary processes;
– supporting processes;
– control processes;
– development processes.

Main business processes are processes focused on the production of goods or the provision of services, which are the target objects of the establishment of an enterprise and which ensure income generation. For example, the main business process for the plant of chipboards and parts is the production of laminated chipboard.

Associated processes are processes focused on the production of goods or the provision of services, which are the results of the accompanying basic production of production activities and they provide income. For example, the process of repairing third-party transport for a trucking company on its own repair base is an associated process.

Auxiliary business processes are processes designed to ensure the performance of basic BPs and to maintain their specific features. For example, for a CHP or HEP plant, an auxiliary business process is the process of repair of production equipment.

Providing business processes are processes designed to support all other BPs and are oriented towards supporting their universal features. At enterprises of any industry, this is the process of financial support of activities, the process of staffing, engineering and technical support, and so on.

Business management processes are processes that cover the entire complex of management functions at the level of each BP and the business system as a whole. These are the processes of strategic, operational and current planning, the formation and implementation of managerial influences.

Business processes of development are processes of perfection of the made goods or services, technologies, equipment modifications. For example, this is the conduct of research and development (R & D) in mechanical engineering, the process of technical re-equipment in the electric power industry, and so on.

For the management of business processes and their moderation, there are various software products and tools. Consider some of them in Table 1.

Table 1 – Analysis of software products for modeling business processes

Program	Functional and features	Cost
BizAgi Suite	– Modeling of business processes, their verification and analysis – Creation of a description of business processes – Creating executable applications based on models – Real-time execution and monitoring of processes – Assigning processes to employees – Assigning other resources to business processes – The program is in Russian	– Free, up to 20 employees.
ELMA BPM	– Building business process models – Assigning business process roles to employees – Real-time execution and monitoring of processes – System work with document circulation – Convenient "help" – Excellent support – Integration with 1C	– Standard platform costs 900 $ plus costs for every user but they have Community Edition which is a semi-functional version for free
Visual Paradigm	– Modeling business processes in different notations – Building other models – Checking models – Automatic generation of documents – Managing model elements attributes – Creating and assigning behavior rules of models – Ability to add your own elements to models – Interrelation of models – Uploading models as a program code – Uploading the model in graphical form	– Subscription — 35$ per month – Full license — 800$
BPsimulator	– Process modeling – Estimation of cost / duration of the process – Simulation Convenient building of models – Reports – Saving models in Google Drive or One Drive	– Free with advertising; – 5 rubles per month without advertising

BPsimulator was selected within the framework of a design and modeling research of business processes of OJC "Belmagistralavtotrans" (Open Joint-stock Company).

OJC "Belmagistralavtotrans" is a diverse company, whose structure now includes trucking departments, transport and logistics center, service stations and forwarding units.

A business model for two specialists working at this enterprise was created. The system will allow to test the efficiency of working hours use. The researched positions are a forwarder from the freight forwarding department and a customs clearance specialist from the customs regulation department.

Business processes performed by a freight forwarder are shown in Figure 1:

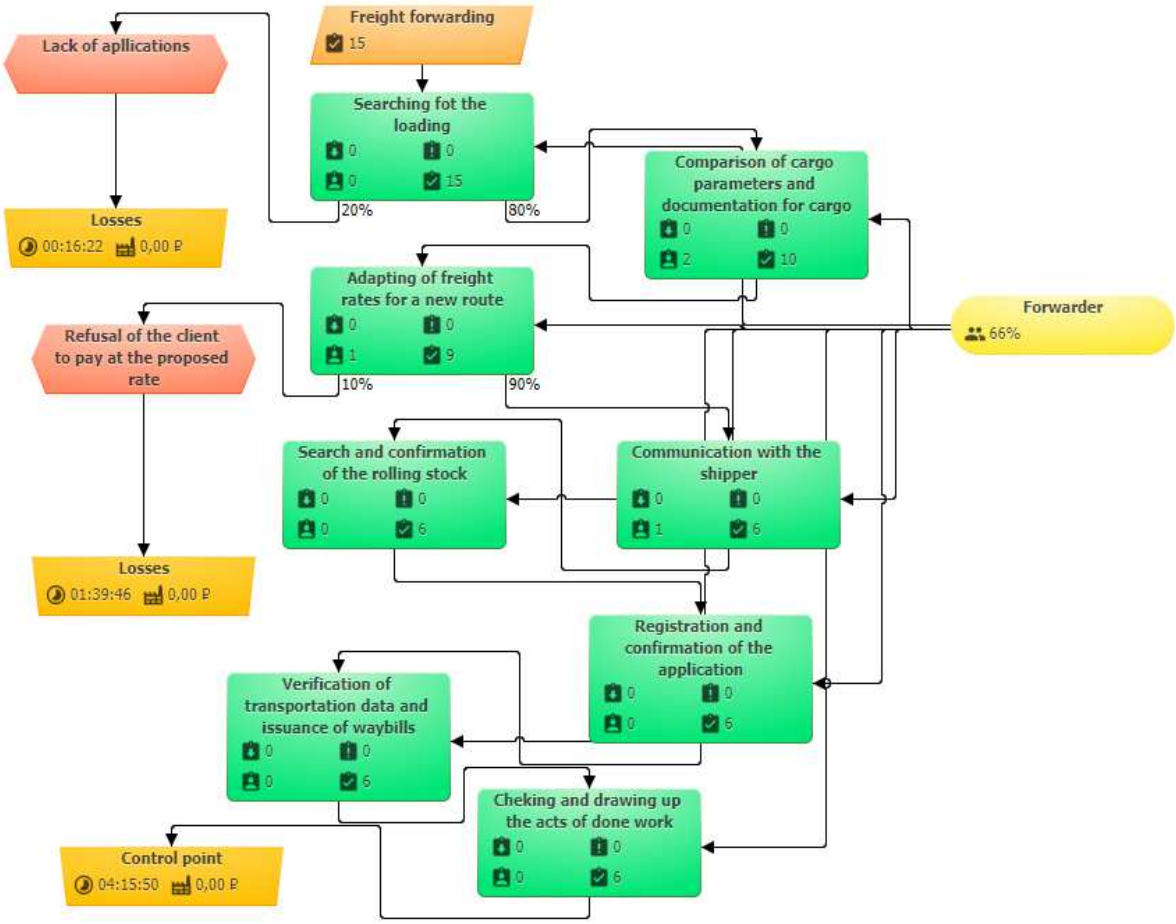

Fig. 1. Business processes of a specialist in freight forwarding

Let's describe how the working scheme is developed. We will discard the time for lunch and employment by printing navigation reports of previous day's trips. In total, this time will average 1.5 hour.

1. Start the day with searching for loading, assume that its average number is 15. There are 2 options at this stage:

– Absence of shipment requests, which makes further work impossible. That leads to an average time loss of 16 minutes 22 seconds (while processing one request);

– We compare the parameters of cargo with available trucks, i.e. we select a vehicle, issue appropriate contracts with customers. Time expenditures will be 10–20 minutes, the number of requests will be 80% of incoming requests (it is assumed that 80% of incoming requests pass to the next stage, and 20% are eliminated for various reasons).

2. At the next stage the freight rate is being agreed. We suppose that in 10% of cases the rate will not be agreed upon, which leads to an average time loss of 1 hours 39 minutes. Time for the reconciliation procedure is from 20 to 60 minutes.

3. If the agreement is successful, then we contact with a shipper, the time spent on processing the operation is 40–95 minutes:

4. Next, the search and confirmation of a rolling stock is carried out, which takes 40-80 minutes.

5. Then the registration and confirmation of the request takes place (10–15 minutes).

6. Verification of transportation data and issue of waybills takes in general 7–20 minutes.

7. Next step is checking and drawing up the acts of the work done (6–15 minutes).

By the last stage there are 6 requests left. Remind you that there were 15 in the beginning. Average processing time is 4 hours 16 minutes.

So, the loss of time arose because of the intermediate difficulties with current orders, searching and docking the load. More efficient operation of the system could be presented by a more advanced communication system of the shipper-forwarder-consignee. It is possible due to better information services, using online platforms, reduction of telephone calls to clarify information, and also by bringing the exchange of necessary information only in electronic form.

Business processes performed by a customs clearance specialist are presented in Figure 2.

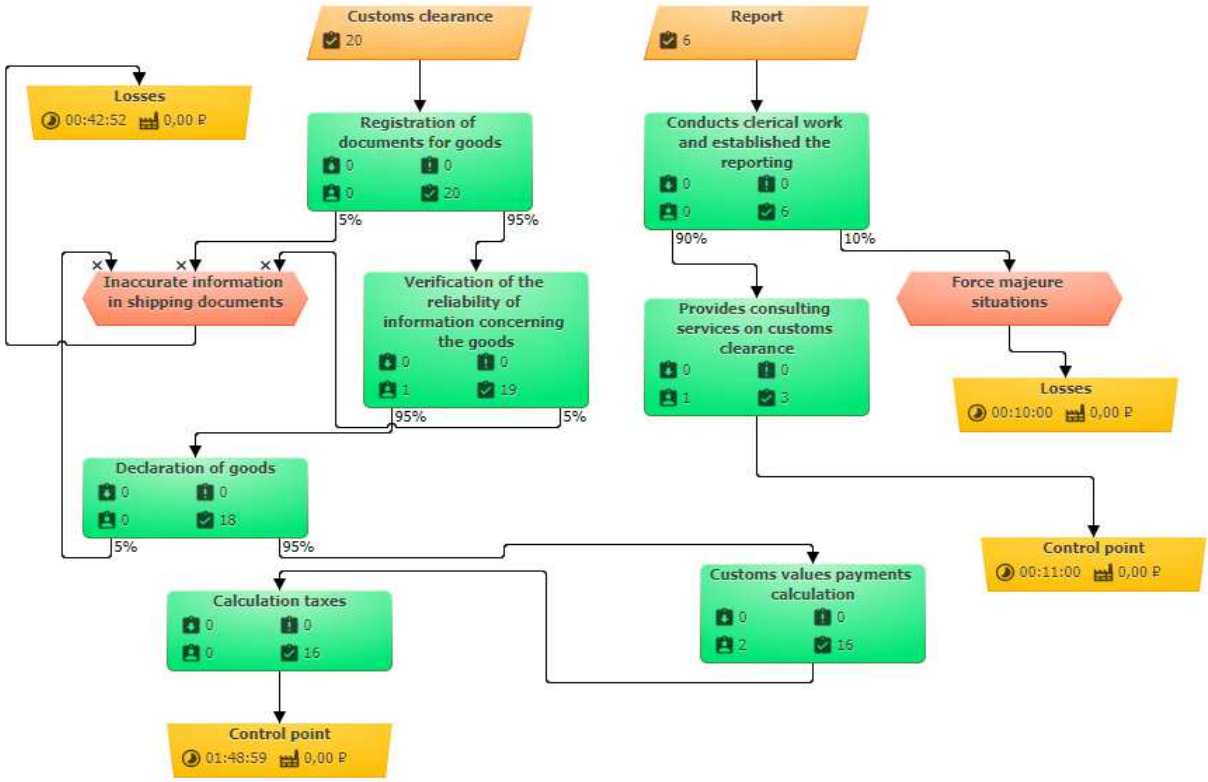

Fig. 2. Business processes of the specialist in customs clearance

We will discard an hour for working with reporting, 90% of the time will be useful while 10% is spent on failures, so at this stage time loss will comprise 11 minutes. We will deduct another hour for lunch break, half an hour for other force majeure situations.

1. The registration of documents for goods will take 10–15 minutes on average.

2. Verification of the reliability of information concerning the goods being moved will take 15-40 minutes.

3. The declaration of goods will take 7–15 minutes.

In all three paragraphs we assume that 42 minutes will be wasted due to inaccurate information or for any other reasons. That means 95% of documents will go to the following stages.

4. Customs values payments calculation, which takes 30–45 minutes.

5. Calculation of taxes takes 15-25 minutes.

There are 17 requests left up to the last stage while there were 20 in the beginning. Average processing time is 1 hour 48 minutes.

In our scheme most errors arose due to incorrect information that reduced the efficiency of the work. We propose to introduce and increase penalties for incorrect filling in of declarations, choice of the product code and non-compliance of goods with the applicable documents. In our opinion, this should reduce the number of mistakes made by a worker.

We have built work models, analyzed working days of each of the specialists, suggested ways to eliminate time losses. In practice, we see the benefits of applying business process diagrams, because first of all it gives us a clear picture of a current mode of work and, as you know, when we simplify our own work, it makes the whole system more efficient and organized.

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Economics

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THE STRATEGY FOR IMPROVING THE EFFICIENCY OF IMPLEMENTATION OF CARGO TRANSPORTATION IN AN AUTOMOBILE TRANSPORT ENTERPRISE

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The article notes that each transport enterprise seeks to increase the efficiency of cargo transportation and, as much as possible, to use the vehicles available at its disposal. To do this, the enterprise needs to develop a strategy that will improve the efficiency of its activities.

Transport ensures the development of the national economy, the combination of production and consumption, the unification of regions and sectors of the economy into a single national economic complex. Freight transportation is the main type of transport services. There are different types of cargo transportation, however, the most common type of cargo transportation is automobile. This is one of the most popular types of cargo delivery. In today's market economy conditions, freight is given a defining place. Permanent commodity exchange is impossible without the involvement of established mechanisms for the transport of goods.

In market conditions, every enterprise must develop and seek its own path of development. To develop, it must improve its state and seek an optimal balance between costs and results of its economic activity, find new, more effective forms of bringing services to consumers, and conduct an appropriate advertising policy. At present, all enterprises have realized that the key to successful operation is not to focus on immediate profit and success, but to develop an effective development strategy in the long term.

In their activities, automobile transport enterprises face a resource constraint, which ultimately leads to significant difficulties with positioning in the market and developing an appropriate strategy. In such conditions, on the basis of analysis, the zone of strategic economic zones is determined, without which the enterprise will not be able to realize its competitive advantages [2].

The enterprise strategy is a general perspective direction of development, connected with achievement of long-term goals, within the framework of which management decisions are made. The strategy serves as an instrument for fulfilling the mission, achieving the objectives of the enterprise, prescribing and determining the forms and methods of carrying out activities, the way to achieve the goals. The strategy is the basis for the formation of the order of allocation of resources between the spheres of activity of the enterprise.

The existence of a long-term operational strategy allows the transport enterprise to make targeted decisions in the current activities. Underestimation of the role of strategic planning in .practice is often one of the main causes of the crisis situation of automobile transport enterprises. Strategic planning is the only way to understand existing and future problems, formally forecast the development of the situation and substantiate the perspective directions of the functioning of automobile transport enterprises on the basis of assessing their potential opportunities.

Internal factors include:

- the nature of the transport management system;
- the presence of competitive factors in the implementation of transport activities;
- the tariff policy and timeliness of cargo delivery;
- the quality of delivery of goods;
- the entrepreneurial skills and leadership skills of the company.

External factors include:

- the ratio of tariff indicators of transport services of competitors;
- the advantages and disadvantages of competitors' marketing policy;
- the remoteness of clientele;
- the solvency of clientele;
- the level of tariffs;
- the licensing of its activities;
- the investment policy of the enterprise.

The development of a cargo transportation strategy includes the following elements:

1. Analysis of options – an analysis of the need may suggest similar but less expensive transportation options.

2. Analysis of tariffs – rates of payment change significantly and decisions must be made only after considering all the possibilities. You need to get competitive rates.

3. Consolidation of goods where possible – wholesale discounts on transportation can significantly reduce transportation costs. System contracts and general orders proved their profitability. If the delivery system is applied in the exact time frame, then from the point of view of costs, it will be effective to consolidate several suppliers operating under this system.

4. Analyzing and evaluating suppliers – the supplier selection and evaluation system will provide the data necessary to make the best decision.

5. Development of closer links with selected carriers – data exchange is required that lead to better planning of transport services needs.

6. Expenditure analysis – long-term contracts, partnerships, third party participation, cargo consolidation, average payment, cargo packing and maintenance, quality and delivery requirements, offer opportunities to reduce costs.

7. Solving security issues - security issues are related to the requirements of the shipper, which can lead to the harmonization of unrealistic, unacceptable from the legal point of view delivery schedules. The result will be the driver's distortion of the data in the work time book, as well as traffic accidents. Avoiding security-related problems is a key element of the strategy [2].

The stability strategy provides for focusing on and supporting existing business areas. Usually used by large enterprises that dominate the market. A concrete expression of this strategy can be the efforts of the enterprise aimed at avoiding state control.

The growth strategy is aimed at increasing the enterprise, often through the penetration and seizure of new markets. This strategy is characterized by the establishment annually of a significant excess of the level of development. This strategy is pursued by enterprises striving for diversification, in order to leave markets that are in stagnation.

The reduction strategy is implemented when an enterprise needs to regroup after a long period of growth, or in connection with the need to increase efficiency, when there are recessions and cardinal changes in the economy [3].

An enterprise can choose one of these three types of strategy or apply certain combinations of them.

After making a positive decision on a particular strategy, the enterprise faces the task of implementing it. The choice of strategy is limited by external and internal conditions and depends on the resources of the transport enterprise, as well as on the risk for which its management is ready to go.

Thus, in order to increase the efficiency of cargo transportation in a trucking enterprise, it is necessary to apply a strategy that will reduce the costs of logistics processes and generate profits.

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Economics

UDC 334.021

BLOCKCHAIN TECHNOLOGIES IN THE MODERN ECONOMY

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The article deals with the concept of blocking. The essence and significance of the block system is determined. The possibilities of the prospects for implementing the blockade system in everyday life are examined and studied. The locking system is considered and described schematically. Examples of the use of new technology for the use of a block system are given. The advantages and disadvantages of the global information structure are considered.

The 21st century is the century of discoveries and information technologies. IT scope is included in those industries that have never used hi-tech factor as a determinant one. Indeed, we are talking about progress and a park of high technologies. All people use the Internet, the welfare of leading in capitalization companies would be impossible without this network. With the advent of revolutionary innovations, work with the help of computer technology has proved to be significantly more effective. It comes out that progress can't exist without a computer and the Internet in our days. However, artificial intelligence is a subject for hacking so security is one of the most important factors that is preventing the creation of digital economies around the world at this time. The trust of the customer base, the guarantee for doing business, the efficiency of accounting and data storage, effective insurance activity - all of this depends on the level of security and trust of the clientele.

It starts with the fact that since 2009 the whole world has seen the appearance of the payment system which is called Bitcoin [6]. Hence the appearance of the payment instrument which is called Bitcoin-Cash. The fact is that this payment system is based on the technology of "Blockchain", or "The Chain of Blocks".

The Blockchain is a huge public database [2]. The main difference from other databases is that there are no intermediaries between the participants of the system. The database includes transactions that range from remittances to contracts. The essence of the work is that the system is the safest in the world. Literally, the essence of security lies in two words "Block" and "Chain" - the chain of blocks. The block is the main component of the system which stores data on all the transactions performed. Each block has its own hash-code.

For example, two entrepreneurs carry out a transaction for the amount of 9 450 BYN. The transaction data is entered the block. The block consists of several components [1], which you can observe in Table 1.

Table 1 – The composition of block in the Blockchain

Data	Balance	NONCE	HASH
9450	9750	150	1000

Table 1 shows how the Block works. Let's analyze step by step. The scheme of working can be observed in picture below.

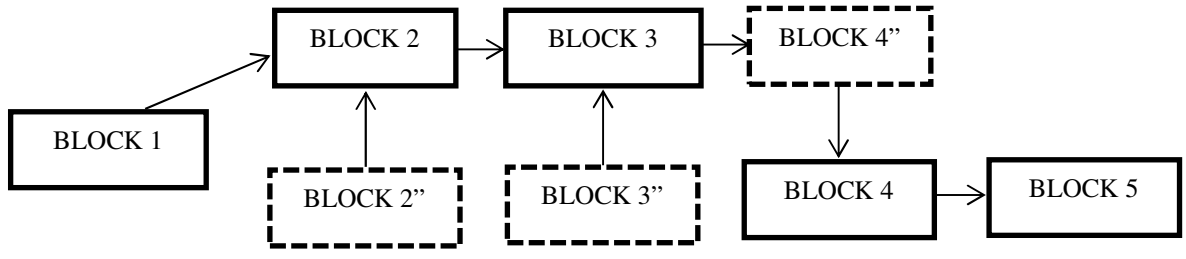

Fig. 1. The chain of block

Source: own development of the author.

So, the transaction data has been entered. Each Block works by function. Balance is a sort of function (any) that makes up a certain value which is equivalent to the data. NONCE is something you need to add to the

data to get the HASH-code. HASH-code is a value specified by the security of the database which makes the system count. Once the HASH code is found then a new block is created. The new block includes both old data and new datathat will be entered into the system. The new block has its own HASH which varies to an unlimited number of zeros. And the values are huge. After that a new block is created and together they are creating a new chain. Calculations are conducted by "miners" - participants of the system, they form the security of database. The faster the participant counts the nonce to the hash-code the faster the new block will be created in which the data from the old blocks is unchanged and authentic. By organizing the security of the system the "miners" receive an economic benefit in the form of obtaining a crypto currency, or digital currency, which is equivalent to the real money.

Having drawn a conclusion, it can be easily understood that the Blokchein's technology is really effective and can be implemented in any accounting system of our country. Since 2015 the Ethereum platform has appeared which makes it possible to build a block system.

Practically, measures on introduction and development of the given system in our country are undertaken. Let's consider the Resolution of the Board of the National Bank of the Republic of Belarus No. 280 dated July 14, 2017, which defines the operation instructions for the network of transaction blocks in our country, and also formed the Council which is a collegial body that determines the standards for the functioning of the Blockchain including the procedure of connecting new owners of certifying nodes of the information network, connection of applied tasks, technical requirements, tariffing of services and other regulatory norms [3].

The decree of the President of the Republic of Belarus called "About the development of the digital economy" No. 8 of December 27, 2017 is a confirmation of the creation of a "digital" economy in the Republic of Belarus. The main provisions of the Decree were:

To create the conditions for the implementing the technology of blocks into the economy of the Republic of Belarus, along with other technologies based on the principles of distribution, decentralization and security of operations performed with their use [4].

This point says that the Blockchain is officially recognized by the state and that this technology will begin to be introduced into the economy of our country.

According to the author's opinion, the Ethereum system is the most promising. There are many arguments for its effective work. The 1st one is the creation of earnings for people-miners. The miners receive economic benefits by ensuring the security of the system and its operation. If to look broadly, this activity needs expensive devices which, possibly, will attract borrowers to the banking and credit sphere and it will enrich technological producers. So, we can observe that the Blockchain has a redistributive function.

The appearance of a new form of business, namely, organizations that specialize in mining provide a place and conditions for effective operation of the devices. The essence of such companies is to take a percentage from the miners who work on their base.

With the advent of this technology, creativity becomes to be a very important business. Any unknown person who engages in creativity wants to sell his work, but he can't do this in real life without an intermediary. The lack of advertising, influence and other social factors will not allow a creative person to earn money; we are talking about a large number of people in different spheres of creativity. However, with the help of the Etherium system, the person can make a code-condition in its block in the form of a set of prices to combine creativity with earnings, and what is the most important is that it takes no intermediaries to do that.

As the author has already mentioned above this system is the most accessible by the fact that there are no intermediaries in it. Let's take the usual money transfer. To send it you need:

1. To contact the organization that provides this service.
2. Pay the interest.
3. Wait for some time until your colleague received it.

With the help of this system you can send money without intermediaries, just set a certain condition in the system, for example, do not enter data about the transaction into the system until the person receives this money. At the same time, all processes take place virtually it turns out to be the most mobile and cheap fund transfer. The last example in this article is about the plans of the Republic of Belarus in the sphere of the chain of blocks. The government is already planning to implement a block system to account the shared construction contracts [5].

This will increase the confidence of citizens and increase the flow of funds into the construction. The attraction of investments is the function which is laid by the state in this regard. Replacement of paper archives which are subject to the influence of external factors of nature. The invariable and reliable storage of contracts in the blocks of the chain. Further, the system, according to the author's opinion, will expand and will be

adopted for keeping records of owners of apartments, cars and other benefits. The technology can be coordinated with the work of the Ministries, Markets, State Organizations. It will make the system accounting fully automated.

In the author's opinion, the Blockchain system is the future in the sphere of both economic and any other. Accounting registers can be transferred to this technology which will increase the stability of accounting in general. While we can say about the initial spread of this technology, but in the nearest future this technology will gain momentum.

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INCENTIVE REGULATION OF NATURAL MONOPOLIES

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The article presents the improved by the author classification of the methods of natural monopolies incentive regulation. The article deals with the main goals, essence and formulas of each method.

Incentive regulation of natural monopolies has the goal to create certain financial incentives to cost cutting and quality improvement of the services provided, at the same time the companies are prevented from establishing excessively high tariffs.

Incentive regulation includes the following methods:

1) slide scale regulation.

This method suggests that the regulator defines the target rate of return of the regulated company:

$$R_a = R_t + h \times (R^* - R_t), \quad (1),$$

where R^* – the target rate of return; R_t – return at the original prices; R_a – the actual rate of return; h is in interval [0, 1], 0<h<1 involves risk sharing [2].

If the rate of return of the regulated company is higher than the target one, then the sum of excess needs to be shared with the consumers. If the regulated company hasn't reached the target rate of return, then the received losses also have to be shared with the consumers. Profits and losses sharing is usually made by correction of necessary gross revenue in the next period of regulation. The main goal of this method is fair division of profits and risks between the regulated company and its consumers.

2) efficiency based regulation:

2a) yardstick regulation or yardstick competition.

In implementation of this method benchmarking is used, that is the indicators of the regulated company activity are compared to the reference level or to the indicators of the comparable companies activities:

$$AC_i = \sum(AC_j)/(n-1), \quad (2),$$

where AC_i – average costs of company i, AC_j – average costs of company j, n – number of all companies in the market [3].

Thus, tariffs or gross revenue become linked to some industry indicators, for example, to the indicator of the industry average long-term incremental expenses, the average level of expenses in the industry/group of companies or to the average prices which are applied by the group of comparable industry companies, etc. When using this method the performance of the company can be estimated in three main aspects: productivity, efficiency and quality [4]. At the same time the production efficiency and, in particular, cost efficiency are the most commonly used measures in the yardstick regulation of the electricity sector.

In yardstick regulation the following methods of performance efficiency assessment of the regulated companies are used:

– the regression method COLS - corrected ordinary least squares. This method is used for assessment of the average productivity or expenses in a selection of the enterprises, but differs from a usual method of the ordinary least squares method in that it corrects the regression line by subtraction of the greatest negative residuals. It shifts the regression line to the most effective result. This method measures efficiency of the companies according to the line which passes through the greatest negative result (the most effective company). However, the usage of this method requires the large volume of data, also the results of the regression are very sensitive to a functional form;

– DEA – Data Envelopment Analysis. DEA is the method which is based on linear programming to determine the relative efficiency by means of various products sold by the enterprise. The corresponding approach carries the name of assessment of technical efficiency when the actual indicator of production output is compared with greatest possible one at this quantity of resources. And the enterprises providing the

maximum production output per unit of resources is undertaken as a "yardstick" to which all other enterprises are compared according to the extent of resources usage . At the same time the production function on the basis of these best enterprises is created, or in other words, the effective enterprises form the so-called "limit of production efficiency". Thus, the measurement of efficiency consists of distance determination between the studied enterprises and the limit of efficiency. The results of DEA are sensitive to random errors, mistakes in measurements. Results of the analysis depend on selection of resources;

– TFP – Total Factor Productivity method. The most widespread approach in creation of the total productivity indicator is the use of linear functions of cumulative value of "inputs" and "outputs" of the company, i.e. a measure of the efficiency of company j, j = 1..., n is calculated in the following way:

$$TFP_j = \frac{\sum_{i=1}^{m} u_i y_i^{(j)}}{\sum_{s=1}^{k} w_s x_s^{(j)}}, \quad (3),$$

where the vectors $y^{(j)} = \left(y_1^{(j)}, \dots, y_m^{(j)}\right)$ and $x^{(j)} = \left(x_1^{(j)}, \dots, x_k^{(j)}\right)$ describe the "output" and the "input" of company j, the components of the vector $u = (u_1, \dots, u_m)$ – the non-negative weight coefficients characterizing the value of the corresponding types of the products created by the companies, and the components of the vector $w = (w_1, \dots, w_k)$ – the non-negative weight coefficients reflecting the value of the resources involved by the company. Thus, for comparison of the considered n companies by efficiency of their activity it is required to establish values of vectors of the weight coefficients $u = (u_1, \dots, u_m)$ and $w = (w_1, \dots, w_k)$. The prices of the created products and services and the prices of the used resources or a share in revenue and a share in the amount of expenses are often applied as weights. However, comparing of the efficiency of the company on the total productivity calculated on the basis of the fixed weight factors for variables of "output" and "input" puts the compared units in "unequal" conditions as in situations when due to peculiarities of their activities the companies have no opportunity to vary the structure of their "output" or "input", the optimum structure of "output" and "input" set by weights is favorable for some companies and is unfavorable for the others.

– other methods (SFA – stochastic frontier analyses, FDH – free disposal hull, etc.);

2b) performance based regulation.

This method is considered as implementation of rules, including financial incentives which induce the regulated company to reach certain target indicators, at the same time the company has considerable freedom of action in the choice of means to achieve the results. Target indicators can belong to various aspects of the company's activity, but non-financial indicators, for example, the volume of losses of the electric power in networks, quality indicators of the regulated services, indicators of operational availability, etc. are most often used [4]. This method of regulation is characterized by two aspects:

– the own expenses of the regulated company are not linked to the cap prices or revenue for this company;

– the cap prices or revenue for the regulated company are linked to the prices of other comparable companies.

3) cap regulation:

The cap on the revenue or the prices usually is calculated by the regulator on the basis of expenses of the regulated company at the beginning of the regulation period and is fixed for the entire period. During the regulation period the cap on the revenue or the prices can be corrected according to inflation and the factor of increase in productivity of the regulated company (X-factor). The regulated company sets tariffs for its services freely provided that its revenue/price won't exceed the cap established by the regulator. If this condition isn't met, then the sum of excess has to be returned to consumers in the next period of regulation. If during the regulation period the company is able to reduce the expenses, then the financial benefit received by it will be its income.

3a) price-cap-regulation;

This method is generally used when the share of fixed expenses of the regulated company which don't depend on sales volumes is rather small, otherwise the use of this method would create either risk of receiving a considerable excess profit by the company, or, on the contrary, risk of incomplete covering of its actual full expenses. At the same time the cap is calculated as a result of division of the necessary gross revenue of the regulated company into the predicted sales volumes. During the regulation period (usually not less than 3 — 5 years) when the set cap works, the price (tariff) for services changes every year on a formula:

$$P_t = (1 + \frac{RPI_t - X}{100}) \times P_{t-1} - Z, \quad (4)$$

where P_t – the price in year t, RPI_t – the percentage change of the index of various prices which isn't connected with change of expenses in the regulated company (the index of consumer prices growth), *X* – the size of increase in efficiency expected by the regulator in the industry (or for the company), P_{t-1} – the price in the previous year, *Z* – the factor considering the influence on the company's expenses of the external events which are out of the sphere of its control [1].

The factor of Z can be absent in the formula. Periodically, but with an interval bigger, than the period of regulation the revision of the basic level of the prices is made on the ground of the detailed analysis of the necessary gross revenue. Determination of the new level of the base price with which RPI -X indexation coefficient is used subsequently is the result of this analysis;

3b) revenue-cap-regulation.

This method is offered for the companies with a big share of fixed expenses. The maximum size of the gross revenue for the regulated company is set for the corresponding year. If the actual gross revenue for the previous year is lower or higher than its expected size, the received deviation is taken into account when calculating of the allowed gross revenue for the next years of the period of regulation with the use of the following formula:

$$R_t = (R_{t-1} + CGA \times N_{cust}) \times (1 + \frac{RPI_t - X}{100}) - Z, \quad (5),$$

where R_t – the allowed gross revenue in year t, R_{t-1} – the allowed gross revenue in the previous year, *CGA* – correction coefficient on the growth of the consumer base (dollars/consumer), N_{cust} – the change in the number of consumers [1].

The factor of Z can be absent in the formula.

3c) hybrid-use-of-revenue-and-price-cap;

The aim of this method is to minimize the shortcomings of two methods considered above applied respectively to the companies with a small and big share of fixed expenses.

With this method in case of deviation of the gross revenue of the regulated company because of divergence of the predicted and actual sales volumes additional profit isn't left completely at the disposal of the company (that occurs when using the price-cap-regulation method), and the half-received gross revenue isn't subject to a full recovery during the subsequent periods of the company's activity (that occurs when using the revenue-cap-regulation method). An example of the formula for the hybrid method of regulation is the following:

$$R_t = P_t \times Q_t = \left[(1 + \frac{RPI_t - X}{100}) \times P_{t-1}\right] \times Q_{t-1} \times \left[W_p \times \left[\frac{Q_t}{Q_{t-1}}\right] + W_r\right] \quad (6),$$

where P_t – the supply price, Q_t – the volume of supply, W_p – the weight of the price factor, W_r – the weight of the gross revenue factor [1].

Selecting various W_p and W_r values, it is possible to gain various stimulating effects and to redistribute the risks connected with a deviation from the forecast in different ways between the regulated company and its consumers. At the same time if to accept W_r = 0, and W_p = 1, the formula for the price-cap-regulation method will be received. Otherwise (W_r = 1, a W_p = 0), it is a formula for the revenue-cap-regulation method.

Conclusions. Establishment of excessively high or excessively low rates for natural monopolies services causes negative consequences at the micro-level and a macro-level of the national economy therefore the choice of the most suitable method of tariff regulation in these economic conditions is of particular importance. In each case it is necessary to proceed from the purposes of regulation, their priority, merits and demerits of certain methods of regulation, opportunities of their administration and information support. It is also necessary to mark that methods of tariff regulation evolve, the new elements, for example, considering efficiency and quality of services are added to already existing formulas. In practice the combination of several methods often takes place. Therefore when forming a tariff policy on services of natural monopolies it is necessary to consider

not only the existing methods, but also possibilities of their correct combination and also adaptation under specific economic conditions and purposes.

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THEORETICAL ASPECTS OF HUMAN CAPITAL INVESTMENT ATTRACTIVENESS

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Determined the theoretical background for researching the problem of human capital investment attractiveness. Analyzed the National innovation system on the basis of the Global Innovation Index, identified strengths and weaknesses. Explained the necessity of developing a methodology for assessing the human capital investment attractiveness in the Republic of Belarus.

In the conditions of the modern economic system there is a decrease in the role of the material and technical component of the production process.

We could also see the increased importance of innovation in the ensuring further economic growth not only of individual economic entities, but also of the state as a whole. Optimization and improvement of the investing process efficiency in human resources will accelerate the process of human resources attracting and the accumulation on this basis of human capital, which is necessary for the development and implementation of innovative products.

Problematic issues in the process of investment into human capital have been considered by the leading foreign and domestic scholars, such as K. R. McConnell, S. L. Brue, B. B. Leontiev, V. L. Inozemtsev, S. A. Lenskaya, L. S. Shakhovskaya, A. I. Ivanyuk and others.

However the researches of these scientists allow us to identify only some components of the process of evaluating the human capital investment attractiveness, which can be applied in domestic practice. In General, we can talk about the lack of integrated and systematic approaches to the study of the above question.

Today the Republic of Belarus belongs to countries with a high human development index (HDI) [1], which indicates the high quality characteristics of human capital, which is accumulated in the state.

However, the level of innovative component of the economy is not sufficient for the formation of a coherent national innovation system, as evidenced from the data of the Global innovation index of the country [2].

In 2017, 127 countries were included into the rating, while the positions of some countries have changed significantly: Belarus reduced its position in 2017 on the innovation index equal to 29.98 points, took 88th place, skipping ahead Armenia (59), Georgia (68), Kazakhstan (78) and Azerbaijan (82). Russia with a score 38,76 took 45th place, ahead of Moldova (54) and Ukraine (50).

Among the strengths of Belarus in this rating at the end of 2017 were:

– the sub-index on the criterion "Education" - 64,5 (12 place). For comparison: Russia with 59.7 points takes 23 place, Kazakhstan with 43.4 points -78 place;

– the sub-index on the criterion "Ease of opening a business" - 92.9 points (28 place). Russia - 93.6 points and 23rd place, Kazakhstan – 91,9 points and 38th place;

– the sub-index on the criterion "Higher education" - 51.8 points (17 place). Russia – 48.8 points and 23rd place, Kazakhstan – 37.7 points and 57th place;

Weaknesses of Belarus:

– the sub-index according to the criterion of “Intangible assets” (11.0 points and 124 place)

– the sub-index according to the criterion of "Business Lending" (19.2 points and 114 place)

– the sub-index according to the criterion of "Acquisition of knowledge" (Knowledge absorption) (23.6 points and 107 place).

In this regard, a new approach is needed to stimulate the process of attracting human resources to innovation in order to create knowledge-intensive products.

First of all, it is necessary to determine the system of indicators of the mechanism for assessing the investment attractiveness of the involved and unused human capital in the production process [3] to optimize and improve the efficiency of the innovative products development.

New methods of assessing the investment attractiveness of human capital should first of all rank the skills and abilities of available human resources, reflect the return on investment in human capital in already produced knowledge-intensive products.

In the future, this will allow to review the requirements for qualification and training of human resources at the macro-, meso - and micro levels, improve the efficiency of their involvement and involvement in the process of creating innovations, and generally improve the quality component of the human capital of the state.

The formation of the methodology for assessing the investment attractiveness of human capital in the Republic of Belarus will allow to:

– form an effective mechanism for evaluating the investment attractiveness of human capital;

– get a holistic view of the organization of the human capital management process;

– show the relationship and interaction of individual elements of the management decision-making system in the process of investing resources, including financial, in the qualitative component of human capital;

– develop an effective mechanism for the financial management of human capital during its formation, movement and use.

In General, the development of such a methodology will improve the quality of the accumulated human capital in the Republic of Belarus and accelerate the process of transition of the Republic of Belarus to an innovative economy in the context of globalization of the world economic systems.

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