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# INNOVATIVE MARKETING STRATEGY AIMED AT MAXIMIZING THE DEVELOPMENT OF THE TOURIST INDUSTRY IN UZBEKISTAN

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***Annotation:*** *To further improve the quality of services for tourists visiting our country and to attract the attention of the world community as a country with a tourism industry that fully meets market requirements. The development of the tourism industry has turned many places into tourist destinations: resorts or temporary stops, the impact and consequences of this industry vary depending on the size and relative importance of the local community.*

***Keywords:*** *Tourism industry, marketing, hotel, tourism.*

In Uzbekistan, the number of customers using the services of tourist enterprises is regularly increasing. But these rates of growth are not so noticeable now. According to preliminary calculations of the requirements, in the near future, the demand for foreign tourists to come to Uzbekistan can increase by 11.5% per year.The consumption capacity of the tourist services market is characterized by indicators of the market volume.

In the total volume of services to tourists, the economy of hotels is the most significant (54.8%), while in the next place are tourism enterprises (27.2%). At the same time, our analysis of the opportunities of the tourism market size shows that currently its opportunities are higher on the account of large groups of income, including the population.

The organization and operation of the tourist complex largely depends on the innovative marketing and financial situation of the tourist enterprise, the level of which is based on the reliability of the services of the cross-border of the sphere. The economic activity of the tourist enterprise is inextricably linked with the turnover of tourist products [6].

Expenses for the services of external organizations accounted for 46,5% of the expenses for the placement of a large amount in the structure, transport – 25,7%; catering – 9,7%; services on exportation – 3,6%, total expenditure-85,5%. Analysis of the factors that contribute to their growth allows to determine the mexanizm of price assessment in the tourism industry, to identify ways to reduce the cost of the tourist product and increase its competitiveness. The tourist industry is characterized by the fact that it has parts that form the material basis of tourism, among which it is necessary to include, first of all, the transport and hotel industry [5].



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The provision of transport services to tourists is one of the components of the tourist industry. The presence of international class airports in five cities of Uzbekistan, Tashkent – Samarkand – Bukhara – Urgench Railway, the construction of Angren – Andijan highway, a network of local importance of highways makes it possible to further improve the transport system of the Republic. Today, Uzbekistan is directly connected with more than a million foreign countries. The Republican Avi company carries out more than 53 flights to distant foreign countries per week and 69 flights to CIS cities [1].

Within the framework of the single transport structure of the tourism industry, 92% of all trips of tourism across the country are carried out by cars, 78% of which are accounted for by buses [2].

The number of buses meeting international standards is increasing year by year. Uzbekistan's highways provide safe movement of passenger and cargo cars during the day-night. However, the general condition of Motor Vehicles does not correspond to the standards of developed countries in terms of width and surface coverage. One of the main tasks facing road service personnel is to further improve the road network in the future.

As practice shows, one of the negative factors that affect the development of the tourism industry in the current period is the lack of regularity of interaction of tour operators with transport companies. The dynamics of the development of Civil Aviation shows that in the following years, the volume of passenger transportation of Civil Aviation is almost unchanged. The survey conducted by the author among tour operators shows that the fact that the National Avi company "Uzbekistan Airways", which has turned tourism into a monopoly, has greatly increased the cost of services, hinders the growth of tourists arrival. The introduction of customs taxes (30% of the total price) and excise taxes (70%) negatively affects the renewal of any type of export.

Scientific research shows that in the market of transport services there is a high competition, which affects the mutual coordination of the activities of tour enterprises and the tourist industry, the legal protection of the rights and interests of tourists.

An important component of the success in the tourism industry was the development of the hotel business. Therefore, for the successful development of the tourism industry, high-quality services must be provided here. The consumer of the hotel product can choose a variety of options and forms for accommodation in the Republic.

One of the main peculiarities of the relationship of the subject in the market of tourist services is the offer of this available capacity to the fullest extent possible. The analysis of the three leading spheres of the Republic's tourist industry (transportation, accommodation and tour operators ' offers and costs) shows that it is necessary to regularly analyze the needs and requirements of the main groups of consumers, as well as to develop conceptions that ensure stable competitive activity of producers of effective products and services; it is necessary to develop tourist products, bring them to the market, distribute and sell them, at the same time, the profit portion must also be included in the price; when determining prices, it is necessary to take into account the nature of competition in the tourist market, as well as the pricing policy of competitors.


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The territory of Uzbekistan is part of a mixed type of Tourism and is characterized by a high degree of assimilation of the following factors in relation to natural and cultural monuments close to each other and densely located, the territory (population, roads, with the density of the communication system), convenience of transportation by geographic and geopolitical conditions.

**Tourism opportunities of Central Asian countries**

| Countries | The main objects of tourism and types of recreation | Country potential % | Conditional minimum amount of capital required (mln dollars) |
|---|---|---|---|
| Tajikistan | Ajina Topa complex, Khulbuk and Kafirkala towns, Mirsaid Khamadani shrine, mountain-Badakhshan Autonomous Region, Shirabad district, Varzob Pamir-administrative, mountain-skiing tourism and hunting | 59,2 | 25,80 |
| Turkmenistan | All-Turkish national reserve, neutral rock, Sultan Sanjar mausoleum, Kora-Kum region of enlightenment and natural tourism | 63,5 | 23,90 |
| Kyrgyzstan | Issyk-Kul, Naryn, Karatol-Japirik Reserve, Sarichat-Ertash, Sari-Chelek reserve-the territory of nature tourism | 60,7 | 19,75 |
| Kazakhstan | Utror, Sayram, cities of Turkistan, Khoja Ahmed Yassavi mausoleum, Karahan and Daudbek theme, Chori kanoni, Borovoy, Kukchatau Kur, Shimbulak educational holiday, nature and mountain tourism region | | |
| Uzbekistan | Historic cities, Ugam-Chotqol National Park. Zamin nature zone, Kora-Kum, Haydarkul, Shakhimardon-the territory of enlightenment, nature, treatment and recovery | 56,0 | 18,25 |
| | Total by Central Asia | 55,8 | 20 mlrd |

Today, sustainable tourism is one of the most actively growing trends characterizing the development of the tourist services market. In many places, the process of bringing tourism to the market as a stagnant zone is going on, the main task of which is to satisfy the needs and requirements of the present generation without harming the interests of the future generation. Thus, a sustainable tourism complex requires taking into account long-term benefits and consequences.

Tourism massages are such a limit that it is necessary to take advantage of all the opportunities of the selected areas to a great extent and keep them safe for the next generation. It is necessary to create a new methodology for planning the transition from short-term tourism to long-term tourism as a result of such a concerted approach to tourist activity [4].

Komplex was widely used in the analysis of the results of selected observations, as well as data from the State Department of Statistics and special literature. According to him, it was concluded that in order to enter the tourist markets, it is necessary to organize efforts and to reconsider the demand for tourist products and services of Uzbekistan. For this, it is necessary to develop the concept of


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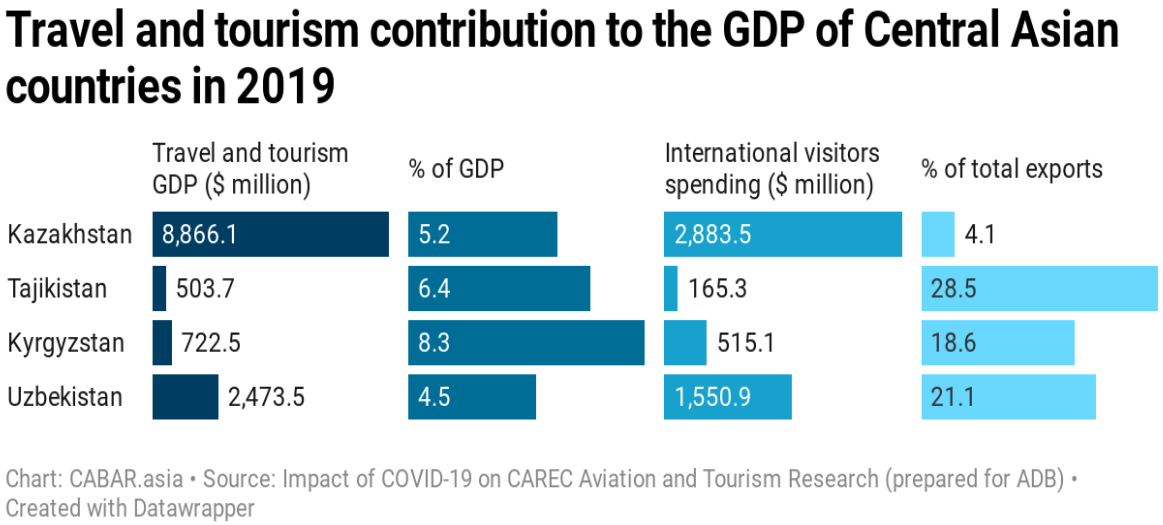
innovative marketing of the development of the tourism industry in the country and its functions among the interested forces engaged in its realization.

To determine what the internal structure of the Central Asian tourist market, taking into account the opportunities of the region, it is necessary to disassemble the map of Central Asia, having determined the specific types and directions of Tourism.




After that, it is necessary to evaluate the main parameters of the district, as well as the complex aspects that affect the arrival of tourists to this region, taking into account the peculiarities of the tourist area with the help of special expert (examination) methods and scales. For tourists who have different needs for the tourist potential of the region, that is, for tourist products, it will be known to what extent, under what conditions, the conditional size of the funds that must be restored to the tourist index of the region (Table 1).

As can be seen from the table above, the average tourist index of Central Asia is 55,8%, which is considered a high figure. More than half of the territory has climatic factors (in some region) of the geographically-picturesque region, which makes it possible to develop the tourism industry in different directions.

Thus, the Republic of Uzbekistan is one of the regions with great prospects in terms of development of the tourism industry, and in the next 3-5 years, it will remain in the first place in terms of mass attracting foreign and local tourism participants, just as before, and their investment will be 2.5 billion dollars. mlrd.so it is planned to be evaluated more than a thousand.

In the development of Tourism Strategy and concept, the choice and inclusion of the image of the place plays an important role. The image of sustainable tourism is one of the rare opportunities for the current conditions of Tourism in Uzbekistan. According to the teleconference "Community-based Mountain Tourism", organized by the Mountain Forum International Organization of mountain regions, in 1998, 74 special projects on the establishment of sustainable tourism industry in the world and the development of tourism related to mountain areas were developed.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In the development and realization of innovative marketing programs, it is necessary not only to take into account the importance of tourism opportunities of the Republic, but also to refer to methodological works that can be used in other programs [7].

The concept of the development of the tourism industry in the Republic of Uzbekistan should be based on the experience of the advanced resorts of Western Europe-Taiga and Taiga in scientific research of the natural opportunities of the taiga and Taiga regions of the Republic, as well as in the study of the past and present situation.

The new concept should establish a path of development that will attract not only local but also foreign tourists — making Uzbekistan one of the largest tourism centers of the tourism industry. In connection with the development of the priority economy, it is possible to formulate the following system of socio-economic goals, which has a special program of development of tourist enterprises in the Republic. For this,

-first of all, to restore the balanced medical and wellness complexes in Uzbekistan, which play an important role in the healthy development of the population, first of all in the Army, as well as in the citizens of foreign countries;

- second, the creation of a balanced tourist Recreation Center in the Republic of Uzbekistan;

- third, the establishment of new tourism routes in the area and on the basis of this, the stabilization of the socio-economic situation in the region;

-from quaternary, on the example of the Republic to minimize the financing of large programs and the development of printsips;

- to determine the principles and principles of the agreement on vertical and horizontal orientation of the fifth, various programs [8].

The complexity of the goals and objectives of the program for the development of the tourism industry, as well as the interdependence, the state significance of the accumulation of experience in the development and implementation of programs and their complex, the manifestation in efficiency and diversity of the consequences of realization all these constitute a whole system of criteria and indicators in the assessment.

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# MANAGEMENT OF THE COMPETITIVENESS OF A BANKING SERVICE

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***Abstract****. The article considered the theoretical foundations of managing the competitiveness of a banking product, and analyzed the management of the competitiveness of a banking product in modern conditions, presented development prospects for improving the management of the competitiveness of a banking product.*

***Key words****. Banking system, banking services, competitiveness, diversification of activities, business sector.*

**Introduction.** The banking system is an integral part of the economy of the Republic of Uzbekistan. The development of this system is directly related to the economic performance of the country. On the one hand, the level of development of the state from an economic, technical and social point of view determines the level of development of the banking system, on the other hand, a highly developed banking system determines the financial well-being of the Republic of Uzbekistan.

The President of the Republic of Uzbekistan Sh.M. Mirziyoyev noted: “We will gradually reduce the share of state-owned banks due to the inflow of private and foreign capital into the banking system. This, in turn, will help to improve the competitive environment in the field, the activities of banks, the quality and culture of lending.

The main event in the development of the sphere was the adoption of the Strategy for Reforming the Banking System of the Republic of Uzbekistan for 2020-2025 and the Roadmap for its implementation. The document is based on the conclusions and recommendations of the World Bank based on the results of studying the current state of the banking system of Uzbekistan and is aimed at further improving its efficiency, ensuring financial stability, as well as reducing the state share in the banking sector, which significantly slows down the transformation.

In the course of the consistent reform of the financial sector, a number of measures have been implemented, as a result of which the necessary legal conditions have been created for conducting a progressive banking business and strengthening the competitive environment in the sector.

The level of development of the banking system can be assessed indirectly depending on the authorized capital and its dynamic value. However, for a more detailed analysis, it is necessary to carefully consider individual components, including the bank's activities in various areas. Only such an approach will make it possible to determine the competitiveness of the bank and develop appropriate recommendations to improve its efficiency.

One of the most important indicators of the bank's activity is the annual profit. This indicator is directly related to banking products, in particular services provided to individuals, so it is important to constantly update the offer and expand the range, taking into account the needs of different segments of the population. Timely analysis of banking products will help prevent unwanted losses associated with the financing of unprofitable projects that have lost their relevance against the


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background of the consistent development of new technologies. The developed development strategies and recommendations, in turn, will serve to increase the bank's authorized capital and increase its competitiveness in the domestic and world markets. Thus, based on the foregoing, we can conclude that the topic of this master's thesis: "Managing the competitiveness of a banking product" is relevant.

The theme of the work determines the object and subject of research. The object of study within the framework of this MD is JSCB “Microcreditbank”.

However, the sustainable development of the banking system is impossible without an efficiently functioning market for banking products. This is due to the fact that the provision of products and services by banking organizations serves as the functional basis for the activities of banks.3 The banking system loses its stability if it is not able to fully perform its functions and effectively provide banking products to customers.

**Methods.** The study used deductive and inductive methods, methods of scientific observation, comparison, analysis and synthesis, statistical grouping, sample observation, social surveys, comparisons and other methods.

**Result.** According to preliminary data, in 2020, the volume of gross domestic product (hereinafter referred to as GDP) of the Republic of Uzbekistan at current prices amounted to 580 trillion. 203.2 billion soums and increased by 1.6% compared to 2019. The GDP deflator index compared to 2019 prices amounted to 111.9 percent.

The volume of GDP per capita in 2020 amounted to 16.9 billion soums at current prices (or the equivalent of 1,685.5 thousand US dollars) and decreased by 0.3 percent compared to the same period in 2019.

At the end of 2020, the volume of production of goods in the structure of GDP amounted to 341 trillion. 467.5 billion soums, in the provision of services, gross value added amounted to 194 trillion soums. 363.5 soums, and net taxes on products amounted to 44 trillion 372.2 billion soums.

The volume of gross value added created in all sectors of the economy amounted to 92.4% of the total GDP and increased by 1.7% (the impact on absolute GDP growth was 1.5%). The share of net taxes on products in the structure of GDP amounted to 7.6% and increased by 1.4%.

In 2020, there was a decrease in investment activity, the growth rate of assimilated investments in fixed assets amounted to 91.8 percent compared to the corresponding period last year.

**Table 1.**

**Dynamics of gross value added of the industrial sector in 2020**

| | billion soums | Growth pattern, in percent |
|---|---|---|
| **GDP** | **580 203** | **101,6** |
| | | |
| **Gross value added of industries** | **535 831** | **101,7** |
| **Agricultural, forestry and fishing** | **151 251** | **103,0** |
| | | |
| **Industry** | **152 728** | **100,7** |


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| | | |
|---|---|---|
| Mining and ore development and development of open deposits | 23 140 | 78,1 |
| processing industry | 116 839 | 107,1 |
| Other industries | 12 749 | 110,5 |
| *Electricity, gas, steam and air conditioning* | 11 769 | 112,5 |
| *Water supply, sewerage system, waste collection* | 980 | 92,1 |
| **Construction** | **37 489** | **109,2** |
| | | |
| **Services** | **194 364** | **100,1** |
| *Trade Services, Catering Services and Catering Services* | 37 194 | 100,1 |
| Transportation and storage, information and communications | 38 531 | 97,8 |
| *Other service industries* | 118 638 | 101,0 |
| **Net taxes on products** | **44 372** | **101,4** |

In 2020, investments in fixed assets were mastered in the amount of 202.0 trillion. soums, of which 65.4 percent or 132.0 trillion. soums were financed from borrowed funds, and 34.6 percent or 70.0 trillion. Soums are financed at the expense of own funds of the enterprise, organization and population.

In the total volume of investments, the share of investments in fixed assets financed from centralized sources of financing decreased by 8 percent compared to the previous year, amounting to 19.5%, or 39 trillion. 310.2 billion soums.

**Table 2.**

**Investments in fixed capital in the Republic of Uzbekistan in 2020**

| Investment structure | billion soums |
|---|---|
| Centralized investments | 39 310 |
| Total disbursed investments in fixed assets | 202 000 |
| Decentralized investments | 162 670 |
| Foreign loans guaranteed by the Republic of Uzbekistan | 22 467 |
| Foreign investments and loans disbursed into fixed assets | 86 647 |
| Direct foreign investments and loans | 64 180 |

Accordingly, 162 trillion rubles will be assimilated from decentralized sources of financing. 289.9 billion soums or 80.5 percent of total investments, compared to the corresponding period last year, this figure increased by 8 percent.

In the structure of enterprises and organizations operating in the service sector, enterprises and organizations engaged in trading activities occupied a high position, that is, 42.7 percent. The share of enterprises and organizations providing housing and catering services amounted to 9.7 percent. In the structure of enterprises and organizations operating in the service sector, the share of enterprises and organizations engaged in transport and storage activities reached 5.6 percent. The share of enterprises and organizations engaged in information and communication activities in the structure of enterprises and organizations operating in the service sector amounted to 3.1 percent. The share of enterprises and organizations operating in the field of healthcare, as well as social services, amounted to 3 percent.


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Trade - 42.7
Other types of services - 35.9
Housing and catering -9.7
Transportation and storage - 5.6
Information and Communications-3.1
Healthcare-3.0.

The final result of the reforms carried out in the country's foreign economic activity, in particular, in the foreign trade sphere, has a direct impact on the standard of living of the population. The reforms being carried out in our country contribute to the accelerated growth of trade relations with foreign countries. In particular, the decisions taken to increase the country's export potential allow domestic companies to gain more experience in foreign markets. They will eventually gain a competitive advantage in world trade. At the end of 2020, the foreign trade turnover of the Republic (hereinafter referred to as the WTO) amounted to 36,299.3 million US dollars compared to the corresponding period in 2019, it decreased by 5,451.7 million US dollars, or 13.1 percent.

**Pic. - 1. Dynamics of the WTO [1]**

The volume of exports to the WTO amounted to 15,127.7 million US dollars (decreased by 13.4%), while the volume of imports amounted to 21,171.5 million US dollars (decreased by 12.8%). During the reporting period, a passive foreign trade balance was registered in the amount of 6,043.8


million US dollars.

**Table 3.**

**Key performance indicators of commercial banks of the Republic of Uzbekistan**

*billion soums*

| The name of indicator | Total | Of them: | | | | Particularly in foreign currency |
|---|---|---|---|---|---|---|
| | | Banks with a state share | | Banks without a state share | | |
| | | Sum | share, in percent | Sum | share, in percent | |
| Assets | 366 121,1 | 310 729,5 | 84,9 | 55 391,6 | 15,1 | 183 927,2 |

[1] Statistical data of the State Committee of the Republic of Uzbekistan on statistics


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| Loans | 276 974,8 | 244 483,9 | 88,3 | 32 490,9 | 11,7 | 138 106,4 |
| Deposits | 114 746,9 | 82 460,8 | 71,9 | 32 286,0 | 28,1 | 49 428,5 |
| Capital | 58 351,3 | 48 995,3 | 84 | 9 356,0 | 16,0 | 335,3 |

In this table. 3. presents the main performance indicators of banks with and without a state share in the capital, including the dynamics of the volume of their assets, loans, deposits and capital, as well as the equivalent of a part of these indicators in foreign currency.

2020 was marked by an increase in the assets of the banking sector, as well as an increase in deposit services. Thus, the growth dynamics of the deposit base in banks showed higher rates compared to the growth rates of other key indicators of the banking sector.

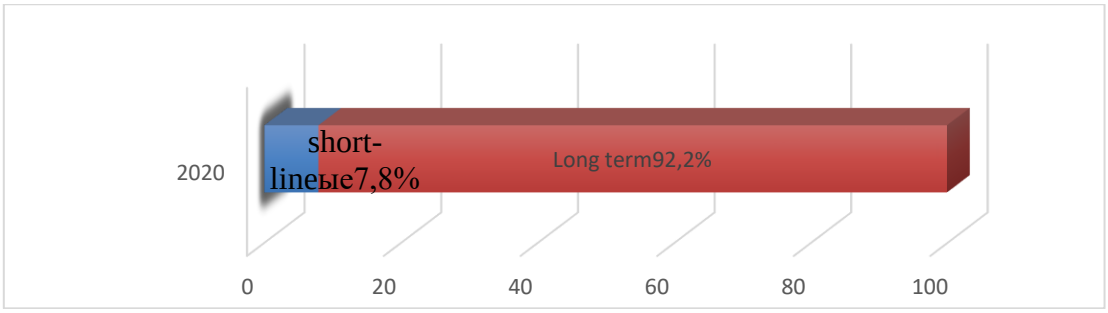
The total volume of deposits in commercial banks in 2020 increased by 26% compared to the same period last year and amounted to 114.7 trillion soums.

Total capital of the local banking system at the end of 2020
increased by 14% and amounted to 58.4 trillion. sum.

**Analyses.** Joint-Stock Commercial Bank “Microcreditbank” focuses its activities on creating new jobs through the development of small businesses and private entrepreneurship, enhancing self-employment, family business and home work. financial services.The bank is actively involved in lending to the real sector of the country's economy, regularly increasing the volume of the loan portfolio.The bank's loan portfolio in the reporting year amounted to 8,539.8 billion soums, an increase of 78.9% compared to 2019. Its share in the total assets amounted to 83%.

In the structure of the loan portfolio, the volume of long-term loans increased by 75.0% to 7,870.9 billion soums, which amounted to 92.2 percent of the total volume of loan investments. Over the past period of 2020, loans were allocated in the amount of 5,521.4 billion soums, of which the share of short-term loan investments was 19.5 percent.

As a result of the implementation of these measures, the weight of short-term credit investments in the loan portfolio reached 7.8 percent.




**Pic 2. Structure of the loan portfolio by industry**

In the sectoral analysis of the loan portfolio, the largest share fell on the industrial sector of the real sector of the economy and amounted to 26.2 percent. In addition, agriculture accounted for 25.4 percent, services - 17.3 percent, trade and public catering - 8.9 percent, transport and communications - 6.3 percent, construction - 4.4 percent and other industries - 11, 5 percent.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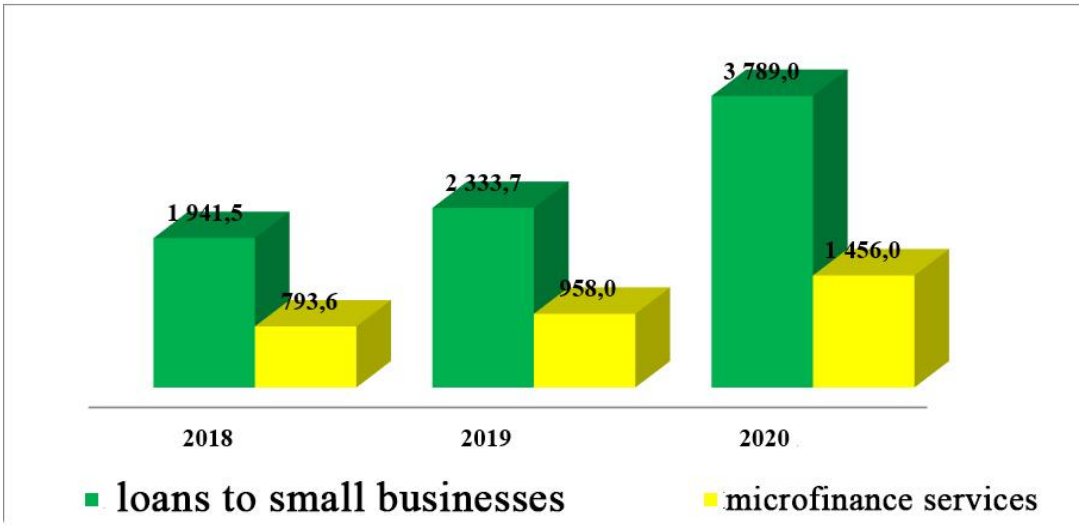
Financial support for small businesses and private entrepreneurship is by far the dominant area of banking. Due to all sources of financing, small businesses in 2020 were allocated loans in the amount of 3,789 billion soums to 52,521 customers, and more than 59,000 jobs were created. At the same time, microfinance services were provided to 50,988 clients in the amount of 1,456 billion soums.




**Pic 3. Loans provided by small businesses and microfinance services provided (billion soums)**

In order to introduce new types of digital and remote banking services, a system for issuing loans "Overdraft", "Online microloan" for the population and "Biznes Online" for business entities has been introduced, allowing the population to receive loans based on scoring analysis through the applications "Mobile banking" and "Internet banking" to replenish working capital without any documents. During 2020, loans in the amount of USD 12.9 billion were allocated to 387 business entities under this loan product.

In order to develop rabbit breeding in our country, over the past period, 3,091 clients were allocated loans in the amount of 240 billion soums, of which 371 legal entities - 188.2 billion soums, 2,720 individuals for the development of domestic rabbit breeding - 51.8 billion soums . Of these, during 2020, 1,710 legal entities and individuals were allocated loans in the amount of 167.3 billion soums.

In order to breed purebred rabbits and develop rabbit breeding in the republic, the hicole breed was brought from the Russian Federation. 17 thousand 200 heads of rabbits were delivered to the rabbit breeding farms of the regions. At the end of the year, the number of rabbits raised by the population and rabbit farms exceeded 1.5 million heads.

In accordance with the instructions of the President of the Republic of Uzbekistan on organizing the activities of the Scientific and Genetic Center for Rabbit Breeding in the Tashkent region, the Ministry of Innovative Development, the State Committee of the Republic of Uzbekistan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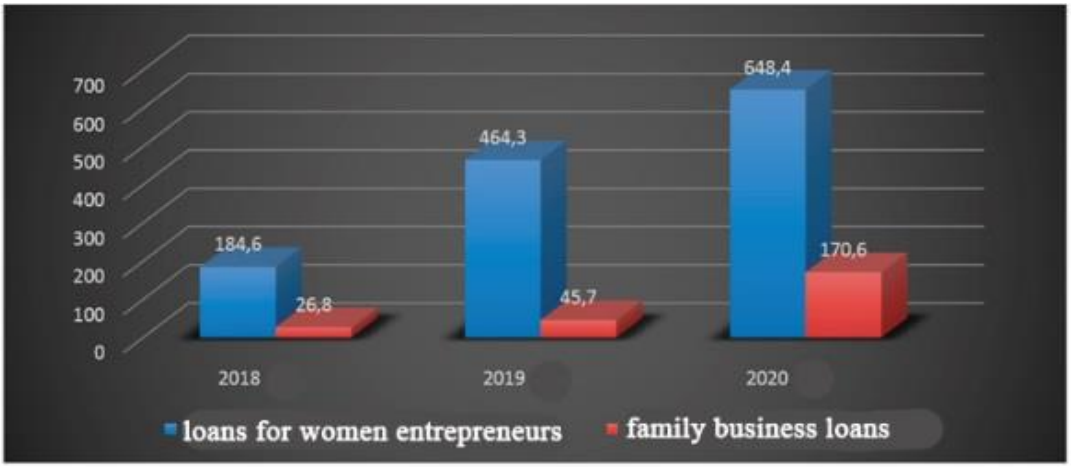
for Veterinary Medicine and Livestock Development and the joint-stock commercial bank "Microcreditbank" established the "Center rabbit breeding and genetics".

In 2020, 2,550 jobs were created through the financing of projects in the field of rabbit breeding, of which 1,437 representatives of households who expressed a desire to engage in rabbit breeding were provided with employment.




**Pic 4. Loans allocated to women entrepreneurs and family businesses (billion soums)**

JSCB "Microcreditbank" organizes work on financial support of women's entrepreneurship together with the Women's Committee of Uzbekistan, the Association of Business Women of Uzbekistan "Tadbirkor".

About 45 percent of business entities using bank loans are women entrepreneurs. In order to increase the efficiency of work in this direction, the bank, together with the Women's Committee of Uzbekistan, is implementing the project "Microcredits to improve the well-being of the family."

In pursuance of the decree, in order to support women's entrepreneurship during 2020, loans in the amount of 648.4 billion soums were allocated for the development of women's entrepreneurship. A large share of loans was directed to the purposes of production, provision of services and production of agricultural products.

During 2020, in the direction "Every family is an entrepreneur", the Bank allocated loans to 42,051 clients in the amount of 1,109 billion soums.

Of these, in order to support youth entrepreneurship, 413.7 billion soums were allocated to finance 18,829 youth projects. funds were directed and employment was provided for more than 19 thousand young people.

Also, in accordance with the Decree of the President of the Republic of Uzbekistan dated June 27, 2018 No. UP - 5466 "On the state program" Yoshlar - kelajagimiz ", assistance was provided in the implementation of business initiatives, start-ups, ideas and youth projects.

In particular, in pursuance of the Decree "On the state program "Yoshlar – kelajagimiz", a total of 121.9 billion soums were allocated for 461 youth projects and 1,197 young entrepreneurs were employed.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**Discussion.** The joint-stock commercial bank "Microcreditbank" was established by the Decree of the President of the Republic of Uzbekistan No. PF-3750 dated May 5, 2006 and the Resolution of the Cabinet of Ministers No. 78 "On the establishment of a joint-stock commercial bank". In order to organize the effective operation of the bank "Microcreditbank" and strengthen its financial technical base The Bank cooperates with international financial institutions and foreign commercial banks.

The main shareholders of the bank: the Ministry of Finance of the Republic of Uzbekistan, the Fund for Reconstruction and Development of the Republic of Uzbekistan, as well as enterprises in the basic sectors of the economy.

The subject of banking activity is money, currency values and other financial instruments. The maximum effective implementation of the functions of money is the subject of banking.

The Bank is a commercial organization whose main purpose is to make a profit, and it is independent in making decisions regarding banking operations. The Bank is a universal bank and is part of the unified banking system of the Republic of Uzbekistan.

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# IMPROVING THE LEGAL FUNDAMENTALS FOR ATTRACTING FOREIGN INVESTMENT TO THE NATIONAL ECONOMY

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***Sh.U. Rajabov***
*Supervisor: Doctor of Economics, Docent*

***Annotation:*** *Today, the most effective factor influencing the development of the economy is foreign investment. Therefore, ensuring macroeconomic stability, guaranteeing the protection of the rights of foreign investors and the creation of a broad system of incentives remain the priorities of prudent investment policy in the country today.*

***Keywords:*** *economy, investment, investor, law, law, rule, result.*

## INTRODUCTION

*On the basis of investments, the country's production will expand, employment will increase, industrial enterprises will be modernized and incomes will increase. As a result, the welfare of the population increases. Investments are also categorized. It analyzes investments into two groups: domestic investments and foreign (foreign) investments. It is obvious that the efficiency of foreign investment is high. Because while domestic investment in the country ensures the active movement of existing capital in the economy, foreign investment proves its effectiveness by adding additional capital to existing capital. In this regard, the President of our country Sh.M.Mirziyoyev said: "World experience shows that the country that pursues an active investment policy, has achieved sustainable growth of its economy. That is why it is no exaggeration to say that investment is the driver of the economy, in Uzbek, the heart of the economy. Along with investment, new technologies, best practices, highly qualified specialists will come to various industries and regions, and entrepreneurship will develop rapidly "[1].*

## RESULTS AND DISCUSSION

Foreign investment has a direct impact on macroeconomic stability in the country. As mentioned above, foreign investment will provide additional capital to the economy, reduce unemployment and increase the country's production capacity. All of these are indicators of macroeconomic stability. Therefore, the following factors indicate macroeconomic stability in the country:

no problems with income distribution; recorded stable economic growth rates;
the state budget deficit is moderate to GDP;
stable exchange rate.

The above factors are one of the indicators of the level of macroeconomic stability in the country. One of the key factors here is the even distribution of income. Along with the increase in income, its flat distribution is also important. That is, it is important to ensure that most of the revenue does not go to individuals.


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Regular economic growth is also an indicator of macroeconomic stability. Foreign investment is directly proportional to economic growth. In other words, as foreign investment grows, so does economic growth. Because one of the main components of GDP is investment.

As a result of reforms aimed at creating a favorable investment climate in Uzbekistan, the volume of foreign investment in the country's economy is growing (Figure 1).

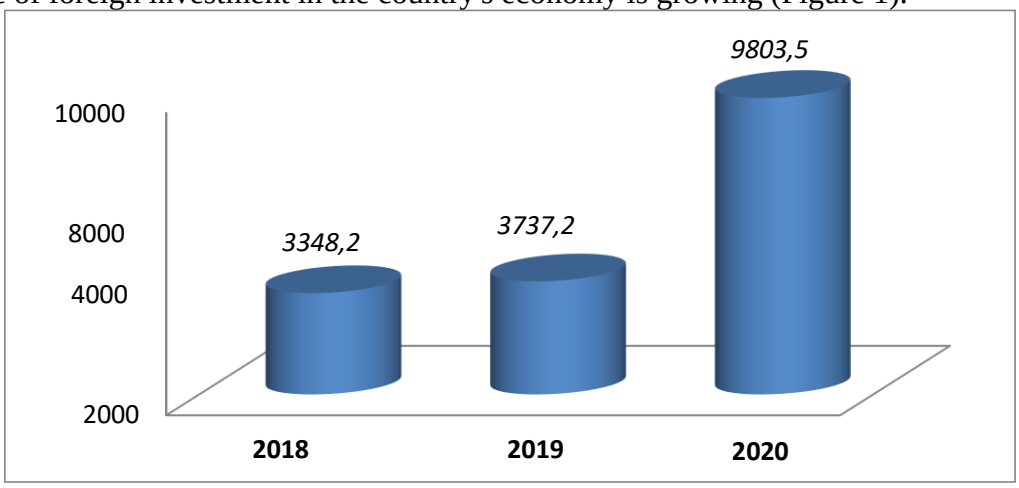


**Figure 1. Development of foreign investments and loans in 2017-2019 (mln. USD)**

If we look at the volume of foreign investments and loans disbursed in 2018-2020, we can see the following: In 2018, the volume of foreign investments and loans disbursed amounted to 3348.2 mln. In 2019, the figure was 3,737.2 million US dollars. USD, and in 2020 it will be 9803.5 mln. U.S. dollars. These data show that the volume of foreign investment in the economy is growing from year to year.

Based on the analysis, it is advisable to implement the following proposals aimed at increasing the volume of foreign investment in the economy of Uzbekistan:

- Continuous improvement of legal, socio-economic and other conditions that ensure the attraction of direct capital investment in the economy of the republic;
- further improvement of practical work aimed at increasing the efficiency of investments in the economy and on this basis to increase the efficiency of investments in the economy;
- Development of new high-tech manufacturing enterprises and increase of investments;
- Directing foreign investment in technical and technological modernization of existing manufacturing enterprises and providing additional benefits to investors investing in this area.

## CONCLUSION

In conclusion, foreign investment is one of the main factors that have a positive impact on economic development. High economic growth can be achieved by increasing foreign investment. Foreign investment will help modernize manufacturing enterprises in the country, create new enterprises and, as a result, create new jobs. As the level of employment increases, so does the income of the population, and the well-being of the population increases accordingly. As investment is a major component of GDP, an increase in foreign investment leads to an increase in the country's gross investment and, as a result, an increase in GDP. In addition, foreign investment will serve to improve the country's export potential. As the volume of foreign investment grows, so does the


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country's export potential. In general, foreign investment plays a key role in ensuring macroeconomic stability in the country and is the biggest positive factor in macroeconomic stability.

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# THE ROLE AND FUNCTION OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN THE DIGITAL ECONOMY

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***Annotation:*** *This article provides insights into the role and function of information and communication technologies in the digital economy.*

***Keywords:*** *Information, communication, computer graphics, digital technology.*

Today, the importance of digital technologies in society is growing. Their widespread introduction and the development of the digital economy have become a serious vital issue for any country today. According to experts, in the next 3 years, 22% of the world's jobs will be created through the use of information technology through the digitalization of the economy.

The President's Address to the Oliy Majlis identified the active transition to the digital economy as one of the top priorities for the next five years. It is no coincidence that this year has been declared the Year of Science, Enlightenment and the Digital Economy. The Ministry of Information Technologies and Communications has a very important and urgent task to ensure the implementation of the tasks set out in the state program. The digital economy, first and foremost, creates opportunities to work in a corruption-free zone. He is a key ally of the "shadow economy." Because numbers seal everything, keep it in memory. Provides information quickly when needed. In such a situation, it is impossible not to conceal any information, to conclude secret agreements, not to give full information about this or that activity, and as a result, the legal funds directed to the economy are wasted. In particular, the correct and timely calculation and payment of taxes, transparency of budget allocations, funds allocated to the social sphere, schools, hospitals, roads will be fully targeted. the ground is created. Therefore, it would be very reasonable and fair to say that digital technology is the shortest path to development.

The field of robotics. It is known that the word "robot" came to our language from science fiction and means "slave". The word was first used sixty years ago by the famous Czech science fiction writer Karl Chepek. But "mechanical people" were known even before that. It is known that in the Middle Ages there were musical puppets or puppet artists with human talents. With the advent of the computer age, robots have emerged that free humans from heavy and harmful labor. Although they do not look like humans, they can perform many functions. For example, at the Uzbek-Korean joint venture UzDAEWOOavto, robots are widely used to perform various tasks. Today, robots are widely used in machine-building plants, steel mills, chemical laboratories, construction. A special branch of technology for the creation of robots - robotics - has appeared. The most common among robots are robot manipulators. Manipulators are very sensitive and powerful mechanical hands. The robots are controlled by a computer, which is the "brain" of the robot, which "sees" through television cameras and "hears" with the help of microphones. Special tools act as a "sensory" organ.

Marketing industry. Marketing is derived from the English word "market", which means activity in the field of trade. The most important thing in marketing is to study the market, the needs and requirements of customers in depth and comprehensively, and to build production on this basis,


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and on the other hand to influence the market, existing demand and needs, to form consumer demand for certain goods. Study of market prices in other regions (districts, cities). It is difficult to imagine marketing without computers and information technology, especially the stock market.

Education is a field of education. One of the main tools in the field of education is didactic support. Didactic support includes modified forms of educational material - slides, diagrams, tables, tests, virtual labs, etc. It is possible to use a computer to create such software, and in the future it is possible to change and improve this software. It also provides opportunities for distance learning and independent study. Manufacturing industry. Computers are used in almost all areas of production. Computers can control many technological processes, using them to automate all processes from the drawing of a new product to the finished product, to draw the shape of the product on a computer screen, make appropriate changes, print on paper and more. can do. In addition, the capabilities of all the devices needed to produce the product, the computer is also the best helper in calculating the cost of it. In the production of a product, information is transmitted from the main computer to the production lines. There, robots ready to receive information begin to assemble the product on the basis of computer-generated software. Finished products are checked by robots and sent to warehouses. The field of medicine. The advent of computers in hospitals will radically change many things, including the above problems. You will go directly to the doctor. In addition to the usual medical tools, his desk also has a computer: in his memory is written the medical history of all patients. If you have applied before, there will be information about you. If you are applying for the first time, the doctor will enter all the information about you on the computer right here. Once all the information about your disease is entered into the computer, a quick and accurate diagnosis of your disease is made by the computer, and a list of drugs is also printed using a printer. By taking a list of medicines, you can also use another computer to find out which pharmacies are available at the nearest pharmacy. Computer medicine is capable of other things as well. For example, a tomograph is a sliding X-ray machine that can provide complete information about any human organ, including microscopic defects, foreign rocks (such as kidney stones), and to keep them moving. It also has the ability to quickly process and display the transmitted information. Computer and art. A composer can use a computer effectively to create music. To do this, with the help of a small real or electrical organ, connected to a computer, he can create a new piece of music while watching on the screen and listen to it right here and there. Artists also liked computers. The first exhibition of computer graphics was held in 1956. Artists have been using computers to draw various sketches, drawings and paintings. It’s also hard to imagine movies and television without computers. Nowadays, teleconferences with people from different places, regions and even continents have become a tradition. The purpose of information complexes and technologies in economics is to explain the essence of the concept of information complexes and technologies in economics and to develop students' skills in applying modern information systems and means of communication to economic processes in various sectors of the economy.

The task of the science of information complexes and technologies in economics is to prepare students for the analysis of problems, independent thinking, the study of specialties using modern information complexes and technologies in various sectors of the economy.

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# RESULTS OF SMOOTHING MACHINE TESTS

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***Abstract:*** *The article provides information on the design and experimental design of a leveling machine for pre-sowing tillage in the preparation of fields for irrigation of cotton, grain and secondary crops in irrigated agriculture of the country, as well as technological processes, technical characteristics of the machine and the results of field tests.*

***Keywords:*** *cotton, grain and secondary crops, pre-sowing tillage, leveling machine, longitudinal and transverse distance between roller blades, soil compaction rate.*

Rational use of energy and resources in primary and pre-sowing tillage, increasing productivity and quality of work are relevant in agricultural production. This is achieved through the development and improvement of combined machines. At present, a lot of scientific research is being conducted in our country in this regard [1-11].

Quality pre-sowing tillage is important in the production of abundant crops. Because if the soil is not treated before sowing, the seeds of agricultural crops cannot be sown at the level of agro-technical requirements, the sown seeds do not germinate and the required seedlings are not obtained from each hectare. This in turn leads to a decrease in crop yields [12].

One of the main tasks in preparing field fields for planting is to level the field surface immediately before sowing, compact it to the required level and crush large lumps to form a fine soil layer to ensure quality sowing and even germination of these seeds. At present, this is done using aggregates such as MV-6.0, MV-6.5 and gears BZSS-1,0, BZTS-1,0 and BZTX-1,0 [13]. However, in most cases, under their influence, the cuttings on the surface of the field are not sufficiently crushed, and during sowing they, ie uncut cuttings, cause the seeders to move unevenly (in terms of sowing depth) and the seeds to fall to different depths. As a result, firstly, the seeds do not germinate completely, and secondly, the germinated seedlings do not develop evenly. To prevent this, on farms and dehkan farms, the soil is mulched and raked 2-3 times before planting. This, in turn, leads to increased consumption of fuel, labor and materials in preparing the fields for planting, excessive compaction of the soil, loss of moisture in it and prolongation of planting times. It should also be noted that aggregates consisting of existing rakes and gear storms are large in length due to the fact



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that they are trailers, inconvenient to use, high material volume, low maneuverability and work efficiency, require a large turning area (and therefore time consuming) and storms. removal of clogged plant debris and weeds is done by hand. In addition, the transfer of aggregates consisting of rakes and storms from one field to another also requires additional manpower and vehicles.

Studies have shown that the noted shortcomings of aggregates consisting of rakes and gear harrows can be overcome by equipping the working surfaces of the rakes with special cutting blades and using gear or plank rollers instead of gear harrows. In this case, the pieces on the surface of the field are cut by knives mounted on the working surfaces of the plows and crushed by the planks or teeth of the plow. As a result, a smooth soil layer is formed on the field surface, which ensures quality sowing of seeds in one pass of the unit, and there is no need for additional tillage. In addition, when instead of gear storms, plank or gear rollers are used, the unit will be compacted and it will be possible to prepare it for suspension. As a result, material and energy consumption is reduced, the maneuverability and productivity of the unit is increased, it is easier to use, and the time spent on salt walks is reduced.

Based on the above, a leveler-smoothing machine (see picture) was developed, consisting of a leveler equipped with cutting blades on the working surface and a gear roller.

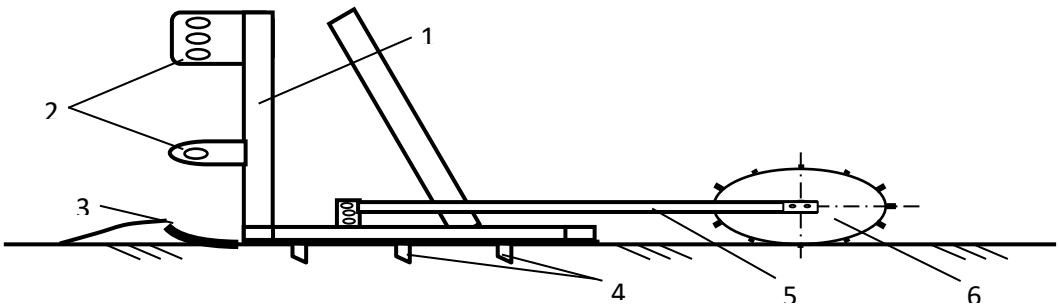
The pre-sowing leveling machine is used in the preparation of fields for planting cotton, wheat and secondary crops. In one pass, the surface of the field is leveled, compacted, and the large lumps in it are crushed, forming a fine layer of soil, i.e., the soil is ready for planting.

The gear frame is hinged to the frame of the machine.

Table 1 shows the technical characteristics of the smoothing machine.

An experimental version of the smoothing machine was prepared on the basis of a design scheme developed for field tests.

The purpose of the study. Carrying out field tests of the experimental version of the developed leveling-smoothing machine.




1-rama; 2 hanging device; Level 3; 4 cutting blades; Gravity of the 5th reel; 5-roller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a)

**Design diagram of the leveling machine before planting in the soil (a) and general views of the experimental version (b)**

**Table 1. Technical description of the experimental version of the smoothing-smoothing machine**

| T/p | Name of indicators | The unit of measurement of indicators | The value of indicators |
|---|---|---|---|
| 1. | Type | - | Осма |
| 2. | Combined tractor class (model) | - | 2-3 (MX-135, MXM-140, Claas ARES 697 ATZ, Keys 4240X, APION630S, New Holland T7060) |
| 3. | Work speed | km / h | 6,0-9,0 |
| 4. | Coverage width | m | 4,0 |
| 5. | Processing depth | see | 10 each |
| 6. | Number of blades | dona | 58 |


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| | | | |
|---|---|---|---|
| 7. | The distance between the blades | see | 7,0 |
| 8. | Longitudinal distance between blades | see | 17,5 |
| 9. | The diameter of the roller | see | 30,0 |
| 10. | Number of roller shutters | dona | 8 |
| 11. | Total mass | kg | 980 |

**Research methods.** Field tests of the machine experimental copy Tst 63.04.2001 in field 5 of the experimental farm KXMITI plowed in autumn to a depth of 30-35 cm. “Ispytaniya selskoxozyaystvennoy technical. Mashiny i orudiya dlya poverxnostnoy obrabotki pochvы. Program i metody ispytaniy ”[14], during the preparation of lands for sowing. An experimental version of the machine developed in the tests was assembled and used on a New Holland T6070 tractor. Operating speeds were set at 6.0 and 9.0 km / h.

Prior to the experiments, the soil moisture in the 0-10 cm and 10-20 cm layers was 15.82 and 17.42 percent, respectively, with a density of 1.13 and

1.19 g / cm3, and the hardness was 0.97 and 1.34 MPa.

The following were accepted as evaluation criteria: speed of movement; soil compaction quality; average quadratic deviation of field surface irregularities; soil density.

The results of the study. The test results of the experimental version of the developed smoothing-smoothing machine are given in Table 2.

**Table 2. Results of economic tests of the experimental version of the smoothing-smoothing machine**

| T/p | The name of the indicator | The unit of measurement of the indicator | The value of the indicator | | |
|---|---|---|---|---|---|
| | | | According to preliminary requirements | According to the test results | |
| 1. | Speed of movement | км/соат | 6,0-9,0 | 6,0 | 9,0 |
| 2. | Amount of soil fractions by size:<br>>50 мм | | –<br>– | 2,8<br>13,1 | |


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| | | | | | |
|---|---|---|---|---|---|
| | 50-25 мм<br>< 25 мм | % | > 80 | 84,1 | 2,3<br>10,8<br>87,9 |
| 3. | The standard deviation of the notes on the field surface | см | ± 2 | 1,2 | 1,7 |
| 4. | Soil density | г/см$^3$ | 1,1-1,2 | 1,15 | 1,14 |

From the data presented in Table 2, it can be seen that the performance of the leveling machine corresponds to the agro-technical requirements imposed on it. The level of soil compaction, ie the size of the fractions smaller than 25 mm, was 85.1% and 88.4% (agrotechnical requirements) after the experimental version of the leveler-softening machine developed at operating speeds of 6.0 and 9.0 km / h. this amount should not be less than 80%), the average square deviation of the unevenness of the treated field surface was 1.1 and 1.6 cm (according to agro-technical requirements, the average square deviation of this indicator should not exceed ± 2 cm) and soil density 1, 16 and 1.18 g / cm3 (according to agrotechnical requirements this figure should be 1.1-1.2 g / cm3).

## Conclusion

The use of a leveling machine that prepares the fields for sowing cotton, grain and secondary crops will reduce the cost of fuel, labor and material costs in the cultivation of arable land, as well as increase the quality and productivity of work.

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# WAYS TO INCREASE THE EFFECTIVENESS OF STRATEGIC MANAGEMENT METHODS IN ATTRACTING INVESTMENT (ON THE EXAMPLE OF KASHKADARYA REGION)

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*Group-Mj-502-21*

***Annotation:*** *The article covers the concepts of attracting and rational use of foreign investment in the Republic of Uzbekistan, the creation of favorable conditions for investors. The location and distribution of investor-oriented capital migration is also cited in the case of Kashkadarya region.*

***Keywords:*** *Portfolio investments, financial investments, international mergers and acquisitions, international investment agreement, regional investment agreement.*

## INTRODUCTION

*The Republic of Uzbekistan pursues an active policy aimed at accelerating the attraction of foreign investment. Ensuring the conversion of the national currency for current operations and the implementation of reforms will form a favorable basis for further liberalization of the economy and the implementation of projects with foreign capital in Uzbekistan. The country has a comprehensive system of legal guarantees and benefits for foreign investors. The system is based on the Law on Foreign Investments, the Law on Investment Activity, the Law on Guarantees and Measures to Protect the Rights of Foreign Investors, and the Law on Foreign Investment in the Securities Market. on the protection of investors' rights. These laws ensure that foreign investors operate on an equal and fair basis*[1]*. In addition, a system of additional measures has been developed to encourage the activities of enterprises with foreign investment, including tax incentives and preferences.*

## RESULTS AND DISCUSSION

The income received by a foreign investor in the Republic of Uzbekistan may be reinvested in the territory of the Republic of Uzbekistan or used in any other way at its discretion. In particular, the attraction and repatriation of foreign direct investment in the Republic of Uzbekistan, the exercise of rights acquired in connection with the implementation of foreign direct investment are carried out without restrictions. This convenience is an important factor in stimulating the activities of foreign investors in an environment where the possibility of free conversion of our national currency is limited by current operations.

In general, an incomplete list of key guarantees for foreign investors is as follows:

1. Foreign investments in the Republic of Uzbekistan are not nationalized or requisitioned.

2. Foreign investors are guaranteed the transfer of profits and other funds in foreign currency without any restrictions. It also ensures the conversion of imported raw materials, components and

[1] A.V Vakhabov, DA Tadjibayeva, Sh.Kh. Khajibakiyev., World economy and international economic relations. Textbook. Tashkent: Bactria press, 2015. - 584 p.



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modern technologies into foreign currency. Foreign individuals and legal entities are guaranteed free participation in the process of privatization of state property, including the sale of real estate. .

3. Enterprises with foreign investment have the right to export their products without a license, import products for their own production needs and import property without paying duties to contribute to the charter capital of joint ventures.

In 2018, Biss Electronics System LLC launched the production of modern TV sets in Karshi as part of a project worth 2 billion soums. As a result, about 40 jobs were created. The company, which has a production capacity of 25,000 televisions a year, is also expected to export its products.

Now, in order to expand this activity and to develop new types of electrical products, a total of 10.0 billion. Practical efforts have been launched to implement the project "Manufacture of air conditioners" in the amount of 1 billion soums[2].

The Kashkadarya branch of the Center for Economic Research and Reforms analyzed the region's investment indicators for the 1st quarter of 2022[3].

The volume of investments in fixed assets in the region amounted to 3,668.2 billion soums (121.5% compared to the same period last year), the share in the country was 7.3% (4th place among the regions).

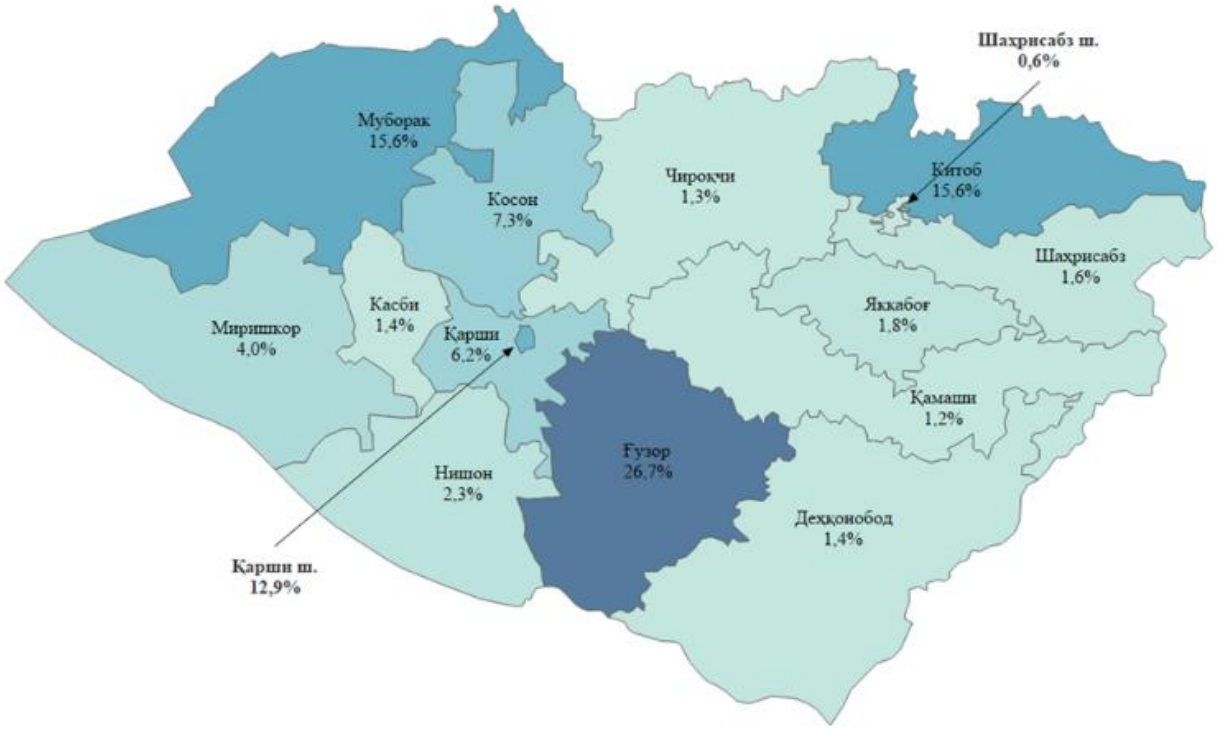


*Figure 1. Share of districts (cities) in the volume of fixed capital investments in Kashkadarya region (in%)*

[2] https://uzeltech.uz/uz/qashqadaryoda-investitsiya-loyihalari/
[3] https://review.uz/uz


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There is a sharp differentiation in investment development in the region. In particular, 70.8% of investments fell to 4 regions of the region - Guzar (26.7%), Mubarek and Kitab districts (15.6%) and Karshi (12.9%). Yakkabag (1.8%), Shahrisabz (1.6%), Dehkanabad (1.4%), Kasbi (1.4%), Chirakchi (1.3%), Kamashi (1.2%) districts and In the city of Shahribz (0.6%) there was a low inflow of investment.

As a result of large investment projects implemented in the regions, the volume of investments in fixed assets compared to the same period last year increased by Kitab (7.6 times), Kasan (5.9 times), Mirishkor (3.2 times), Nishan (1.6 times). and Kamashi (1.4 times) districts. However, in Kasbi (84.8%), Mubarek (68.3%) districts and Shahrisabz (54.5%) there was a downward trend in investment flows.

The volume of investments in fixed assets per capita in the region amounted to 1073.9 thousand soums (342.1 thousand soums less than the national average), an increase over the previous year. ranked 7th among the regions of the republic, accounting for 118.9% compared to the same period last year.

In terms of per capita investment in fixed assets in the districts (cities), Mubarek (6.3 million soums), Guzar (4.6 million soums), Kitab (2, 1 million soums), Karshi (1.7 million soums) and Mirishkor (1.2 million soums) districts were higher than the regional average. Nishan (2 times lower), Dehkanabad (3 times), Shahrisabz (4.1 times), Yakkabog (4.3 times), Kasbi (4.3 times), Kamashi (6.6 times), Shahrisabz (7 , 3 times) and Chirakchi (9.9 times) districts are significantly lower than the regional average.

There is also a sharp difference between the districts in terms of per capita investment in fixed assets. In particular, the volume of per capita investment in fixed assets in Mubarek district is 58 times higher than in Chirakchi district, Shahrisabz - 43 times, Kamashi - 39 times, Kasbi district - 25 times. .

Compared to the same period last year, Kitab (8.4 times), Kasan (6.4 times), Mirishkor (3.6 times) districts showed high growth rates of per capita investment. .

During the analyzed period, 60.5% of investments in fixed assets in the region came from foreign investments, 20.0% - from loans and other borrowings of commercial banks, 17.2% - from own funds of enterprises and individuals, 1.3% - financed from the state budget.

## CONCLUSION

The share of industrial regions with favorable location, developed infrastructure - Tashkent, Tashkent region, Navoi region and Bukhara region, Kashkadarya region, the Republic of Karakalpakstan, where priority, strategically important projects are financed, is high in the distribution of investments.

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# DEVELOPMENT OF REPAIR TECHNOLOGIES

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***Annotation:*** *The article presents the history, types, areas of application, advantages, disadvantages and development prospects of repair technologies. A new technology for the restoration of worn parts - methods of laser coating has been considered and analyzed. Based on the results of the analysis, it is possible to increase the resource of details by 2.5 times.*

***Keywords.*** *Welding, fusion coating, laser, powder, plasma, hybrid laser-plasma.*

In Russia, since 1887, engineer N.G. Slavyanov was engaged in repairs by welding and casting. In 1891 he received patents No. 86 and 87 for the method of electric welding of metal castings and the method of electric welding of metals, in 1890-1892 - patents for his inventions in France, England, Austria-Hungary, Belgium, Germany, USA, Sweden, Italy.

All the advantages of electric welding were immediately appreciated abroad. N.G. for repair welding. Slavyanov chose parts that could be inspected when working after repairs, such as stepper pulleys from lathes, gears, and flywheels for drilling rigs. In 1907, N.G. Slavyanov successfully used welding in the restoration of a strong press stanina at one of the plants in St. Petersburg.

The emergence of fusion coating technology abroad dates back to 1896, when the British engineer M.S. Spencer received a patent for this invention.

In the United States, repair welding and the industrial use of surface coatings began a little later. In particular, in 1922, the Studdy brothers first coated the ends of an oil well by welding a steel pipe filled with chromium alloy in a gas flame. Around the same time, the valves of the internal combustion engine were melted using a stellite-alloy invented by engineer D. Haynes (USA). Initially, gas welding was used to coat the surface, but later with the development of new heat sources, other fusion coating methods began to be used.

The beginning of automatic coating dates back to 1939, when Soviet experts G.P. Mikhailov and V.A. Larionov performed the fusion coating using rectangular cross-section coated electrodes. It is now widely used to apply corrosion-resistant coatings to high-pressure vessels of nuclear reactors, to strengthen rolling mills and other large-scale products. Research in the field of fusion coating in Japan began in 1955.

Melt coating has played a major role in the production, operation and maintenance of industrial equipment, increasing labor productivity, improving product quality and saving raw materials. In the future, it will be necessary to master new developments to create welding materials with high technological and operational characteristics and high-efficiency equipment.


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The economic and technological conditions of the emergence of repair technologies are a significant part of resource costs in the production of new parts, as well as the restoration of obsolete and damaged parts in the repair of machines. Thus, even in specialized factories, they account for 50% of machine repair costs and 40% of labor costs. Reducing costs is therefore an important task, and one way to solve it is to repair defective parts. Typical defects of parts and assembly units:

incompatibility between transferable surfaces;
dimensions, geometric shape of surface details and
violation of the relative position in space;
deterioration of material properties;
deterioration of appearance.

The task of restoring defective transitions and missing properties of parts: transitions, shapes, relative positions in surface space, material properties and appearance of the external part. The following methods can be used to restore compatibility between the transfer surfaces of parts:

1) processing of the worn surface of a part and processing of the connecting part (method of repair sizing);

2) use of additional repair part (wear compensator);

3) by restoring the original dimensions of the connecting surfaces of the parts.

You can restore a part or its individual surfaces using the following methods:

1) growth of a defective surface of a part of another material (coating of metal and polymeric materials, spraying, electrolytic and chemical deposition, etc.);

2) transfer of the material of the part from one part to another by plastic deformation (by breaking, distribution, compression, scratching and biting);

3) restoration of the integrity of the body of the part (methods include welding, brazing and gluing);

4) removal of material from the surface of the part (including turning, grinding and milling);

5) restoration of the relative position of the surfaces of the part in space (including static loading, embossing, local heating).

The economic feasibility of the repair is that about 45% of the machine parts accepted for repair are obsolete within acceptable limits and about half of the parts related to reuse can be used after replacement at a cost of 15 ... 30% of the cost of new parts. Only 5 ... 9% of the details cannot be restored. Restoration of parts is a major source of cost-effective repair, a technically sound and cost-effective measure.

Rehabilitation of spare parts allows repair and maintenance enterprises to reduce the downtime of machines for repair, improve the quality of their maintenance, have a positive impact on improving the reliability and use of machines. It was found that with wear of no more than 0.2 ... 0.3 mm, 85% of the parts lose their function. This is confirmed by the large size of the repair fund and the expediency of its restoration.

It is appropriate to provide information on the restoration of parts abroad. By restoring obsolete parts in Japan, they meet the demand for spare parts up to 40%, in the USA, Germany, Austria - up to 30 ... 35%.

In economically developed countries, the spare parts market is dominated by restored parts, which are 1.5-2.5 times cheaper than new ones and, as a rule, they are not inferior to them in terms of resources. This is achieved primarily through participation in the repair of machine-building


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enterprises and enterprises specializing in the restoration of worn-out parts. For example, the engine repair plant of the British company Binz Industries Limited repairs about 60,000 Ford car engines a year and restores their cylinder blocks, block heads, distribution shafts, crankshafts, connecting rods, sleeves and other valuable parts. Rehabilitation of similar parts has been set up at Perkins repair plants. An example of the modern organizational and technological level of restoration of parts is the Swiss company Castolin-Eutectic, which has subsidiaries in Europe and the United States. Documents for the development of technology, equipment and materials, restoration of parts are carried out in a scientific center with about two thousand specialists, as well as in scientific laboratories located in different countries.

Particular emphasis should be placed on the cost-effectiveness of restoring parts that exclude the metallurgical production process, which is harmful to the environment and requires energy. Therefore, when restoring 1 ton of steel parts, they save 180 kWh of electricity; 0.8 tons of coal; 0.8 tons of limestone; 175 m3 of natural gas.

The cost of refurbished parts is significantly lower than the cost of new parts, as the restoration of obsolete parts requires 5-8 times less technological operations than the production of new parts.

The problem of organizing the preparation of production and the restoration of parts is much more complicated than the production of new parts. Deformations, worn foundations, residual heat treatment, cracking and fatigue resistance have been reduced in the parts supplied for restoration. All this requires detailed study and consideration in the development of technological processes.

However, the restoration and hardening of the parts allows the machine to renew its service life and in some cases significantly increase it. Studies show that by restoring and strengthening the surfaces of parts, their resource can be increased by 2.5 times.

It is estimated that in 2011-2013. the cost of updated parts will remain at 35 ... 50% of the cost of new parts; the resource of the restored parts is 85 ... 95%, and the resource of the parts restored using hardening technologies is 120 ... 150%.

Development of production to restore obsolete parts will reduce the cost of maintaining an obsolete vehicle fleet and keeping equipment in working condition. According to the research of experts, it is necessary to develop two priority areas in which the problem of restoration of parts should take a worthy place.

1. Rehabilitation or creation of new locations for repair of fuel equipment, hydraulics, gearboxes and other aggregates. These plots should provide all the equipment of the enterprise with repaired units.

2. Industrial modernization of the existing fleet of specialized repair plants and workshops.

There, first and foremost, the restoration of parts, including the restoration of their base surfaces, should take precedence on a large scale.

Laser casting emerged as a coating method in the late 1970s - early 1980s.

One of the most important points in surface coating technology is the delivery of the coating material to the base. The study of laser welding and surface coating technologies has shown that the wire transfer process is carried out in an arbitrary spatial state, the advantage of powdered materials is that they absorb laser radiation more efficiently [2]. In the lower case, painting can be done by pre-distributing the powder on the treated surface. The use of powdered materials in other spatial positions usually requires pre-coating of the washing paste by methods such as flame spraying, plasma spraying, or oven drying. If it is not possible to pre-distribute the powder to the surface, it is given


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with special dispensers. If it is not possible to pre-distribute the powder to the surface, it is supplied with special suppliers. To date, the most commonly used method of laser coating using filler powder materials is to transfer the powder directly to the laser radiation area using special powder dispensers of various shapes.

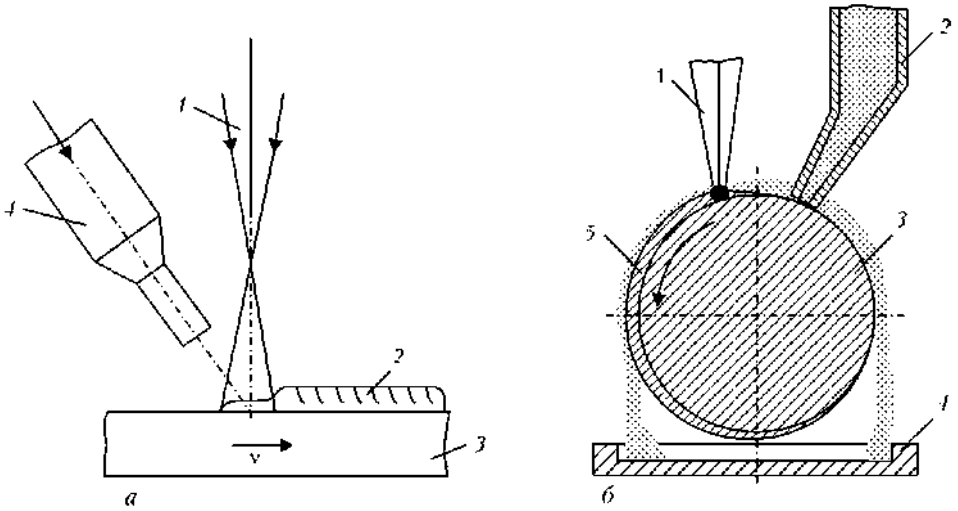


Figure 1. Schemes of laser coating processes: (a) parts of arbitrary geometry (1 - laser irradiation; 2 - cast iron; 3 - moving sample; 4 - base providing shielding gas and filler powder) [1] and cylindrical parts (b) ( 1) - laser radiation; 2 - powder transmission line; 3 - deposited sample; 4 - container for unused powder; 5 - molten coated metal)

The advantages of laser coating include: the ability to apply layers with the desired properties at a height of 0.1 ... 3.0 mm; a significant weakening of the effect of redistribution of components from the base material to the deposited layer, which helps to increase the accuracy of predicting the results and to bring the properties of the deposited layer as close as possible to the initial properties of the deposited layer. material; obtaining equalized fine crystalline (highly dispersed) structures of the deposited metal and a small (0.1 ... 0.5 mm) heat-affected zone; minimizing the allowance for machining to values between 0.3 ... 0.5 mm for each side due to the low level of bearing surfaces (Ra up to 200 ... 300 microns).

Disadvantages of laser coating include: the presence of transverse cold micro-cracks in the deposited layers, the appearance of which is the result of the release of high internal stresses; non-metallic additives and residual moisture of welding powder, as well as the possibility of forming internal and external holes associated with contamination of the welded surface; the relatively high cost of the process associated with the relatively high cost of laser equipment. The issues of controlling, minimizing and completely eliminating the formation of cracks during laser coating have been studied by many authors at different times. Ukrainian scientists proposed a mathematical model of this phenomenon, which allowed to relate the distances between cracks with the mechanical properties of the coatings and their thickness. Based on the above, promising methods of overcoming the shortcomings of the process include methods that allow to reduce the residual thermal stress in the deposited layers and reduce the amount of weld powder and sediment surface with careful preparation. Such methods include, in particular, changing the thermal cycle of the process by


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applying an additional heat source (e.g., combining the effects of laser radiation with the effects of plasma current).

Erosion and corrosion resistant microcrystalline, amorphous and amorphous coatings using laser coating are obtained from a very wide range of materials. However, in the first half of the 1980s, laser coating found wider application as a process of restoring worn-out parts of equipment operating under conditions of friction, impact loads, abrasive wear, and so on. Today, even in industrialized countries, laser resurfacing has not lost its importance - it is used to repair expensive products in the restoration of relatively small defects with high thermal location. For example, such technological methods are widely used in the restoration of turbine wings, shaft cradles, molds and other valuable products of complex profile of aircraft engines.

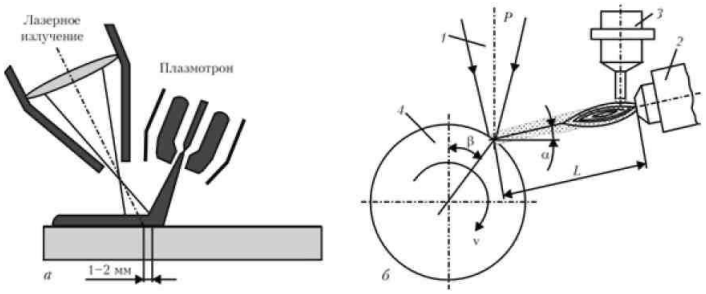


Figure 2. Schematics of powder laser-plasma coating processes using direct plasma torch (a) [10] and indirect plasma torch (b) (1 - radiation; 2 - plasma torch; 3 - powder container; 4 - sample; L). , a, b - distance and welding angles)

Since the beginning of the 21st century, pure laser technologies have been increasingly replaced by hybrid and combined technologies. This includes laser-plasma processes that use the combined effects of arc plasma and laser energy source. E.O. A study of the interaction processes between the directed radiation of a CO2 laser and the plasma of an electric arc column by the National Academy of Sciences of Ukraine named after Paton showed that in such a system a special type of gas, combined laser - arc discharge, can occur. Its properties differ from both an electric arc and an optical discharge powered by laser radiation. The ability of the combined discharge to form high-temperature plasma that is highly unbalanced even at atmospheric pressure of the surrounding gas makes it attractive for use in plasma-chemical technologies. E.O. Paton, theoretical and experimental studies (Academician of the National Academy of Sciences of Ukraine I.V. Krivtsun, Doctor of Technical Sciences V.S. Gvozdetsky, Doctor of Technical Sciences Yu.S. Borisov, etc.) have shown that such discharge may be the basis. It is based on the creation of a new class of plasma devices - integrated laser-arc plasmatrons.

Direct and indirect plasma torches can be used in hybrid laser-plasma surface coating processes. Powder is mainly used as a surface material. The main advantage of using direct-acting plasma torches is the possibility of additional compression of the plasma arc due to the use of focused laser radiation (Figure 2a). The advantage of using indirect plasma torches is that the electric arc has no direct effect on the parent metal, in particular, it increases the thermal positioning of the process (Fig. 2, b) .. According to the authors of the article, is the ability to provide flexibility across the optical fiber. Laser-plasma coating significantly reduces the residual stresses in the deposited layers


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compared to laser solid coating, but one of its main drawbacks is the significant thermal effect on the welded product.

Analysis of the advantages and disadvantages of plasma, laser and laser-plasma coating processes allows us to emphasize the following. In the case of a plasma coating, the part can overheat significantly, leading to residual thermal deformations. Laser and laser-plasma processes allow to minimize the heating of the part, increase the adhesion strength of the deposited layers to the substrate, avoid the application of substrates and simplify surface preparation. However, there are also drawbacks to laser coating processes. These include the stress state of the deposited layers, the presence of holes and micro-cracks in them. Hybrid (joint) laser-plasma processes allow to partially or completely eliminate the indicated defects due to the interaction of components or their joint effect on the workpiece. Thus, compression and stabilization of the plasma arc by laser irradiation allows to increase the speed of the surface coating process and reduce the total heat input; due to the addition of the plasma component, along with the change of the thermal cycle of the laser processing, preheating the powder reduces the residual stresses, eliminates the formation of pores and cracks, and so on.

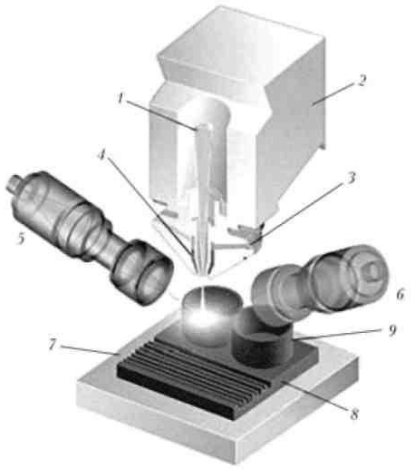


Figure 3. Schematic of the process of three-dimensional synthesis of products using DMD technology: 1 - laser radiation; 2 - focal optics; 3 - powder container; 4 - shielding gas; 5, 6 - sensors of optical communication system; 7 - platform; 8 - basis; 9 - The object being created

Thus, consideration of laser and hybrid (combined) coating processes has shown that the main trends in the development of this direction are: obtaining corrosion and corrosion-resistant coatings with improved physical and mechanical properties; synthesis of three-dimensional objects; creating thin coatings with special properties. Prospects for further development of laser and laser-plasma (laser-arc) coating processes are associated with the possibility of individual elimination of defects specific to each component due to the interaction of these components.

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# METHODOLOGICAL APPROACH TO MODELING THE SUPPLY OF PARTS FOR COMPLEX TECHNICAL SYSTEMS

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***Annotation***. *The article discusses a methodological approach to building a model of a multi-level system for providing spare parts for complex technical systems. The model is intended to substantiate the quantitative and nomenclature composition of sets of spare parts, property and accessories in the context of implementing the requirements for the promptness of restoring the operability of equipment samples as part of the system. The key idea is to submit a simulated flow of applications to the input and study the response of the system of spare parts, property and accessories to them by simulating the time of satisfaction of applications from sets of spare parts, property and accessories of various levels with a sequential increase in their nomenclature and quantitative composition. At the same time, the simulated flow of requests may differ from the simplest one, which makes it possible to reasonably distribute requests for spare parts between sets of spare parts, property and accessories of various levels of content.*

***Key words:*** *provision of spare parts, spare parts system, simulation model, complex technical system*

Experience in the use of complex technical systems (MTTIT) has shown that the recovery time after failure depends significantly on the availability of spare parts. The absence or scarcity of spare parts leads to a significant increase in recovery time due to the waiting time for spare parts from various sources.

Currently, the cost of spare parts is equal to the cost of complex technical systems (MTT). The composition of the spare parts is associated with high economic costs. In this case, increasing the list and size of spare parts will increase the cost of the spare parts supply system (SEQTT), but there will be no reduction in downtime, or in other words, the costs incurred will not justify the gain.

Analysis of the composition and consumption of spare parts in MTT shows that stocks of certain types of spare parts exceed the required level and are stored in warehouses at a time when other elements are in short supply.

Thus, the introduction of a scientifically based calculation methodology of the composition and list of spare parts into practice and their optimal placement in accordance with the requirements of the degree of recovery of MTTs can achieve great economic efficiency.

Existing optimization methods for optimizing the set of parts required for operation do not provide an optimal solution. There are errors in these existing analytical calculation methods. In particular, when the optimal reserve is calculated according to the methodology defined by GOST RV 27.3.03-2005, the adequacy ratio of spare parts is made taking into account the flow of applications for spare parts. In this case, the flow of applications is explained by the law of


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exponential distribution. However, the laws of distribution of violations of some technical samples (mechanical, electromechanical units and blocks, computing devices, reserve elements, etc.) are not taken into account. Because their distribution is different from the exponential distribution.

In this case, it is better to use the method of simulation modeling processes in the form of "MTT-SEQTT".

In simulation modeling, it is possible to create information about the logical structure of the system under study, the sequence of time transitions of processes during operation, the composition and nature of the state of the system [1]. In this case, it is possible to obtain statistical data whose simulation modeling differs significantly from the real situation, but which is sufficient for statistical processing. This is very important in assessing the need for high-reliability or high-responsibility and resource-intensive MTT elements in an EHTT package. Many articles have been published on this subject [2,3], including the system of regional distribution for complex systems [4,6]. The proposed approach is to concretize and develop these studies in relation to the creation of a multi-level ECT for MTT.

Let's look at the initial condition. MTT should be a set of different types of equipment, each of which should be a set of EHTT-YA (individually). These samples are distributed across a single area and interact to perform a single task. EHTT-G (group) is available for all MTT samples, which are closed with EHTT-YA. Replenishment of EHTT-YA kits is possible only from EHTT-G (group) kits. The EHTT-G (group) kit is filled from an inexhaustible source.

The MTT-SEQTT model represents a combination of MTT samples, EHTT-YA, EHTT-G, and inexhaustible resources. In this case, the model of the technical model is realized in the form of the sum of the random breakdown generator, which mimics the operation of devices and elements. The distribution function F (t) for each element according to the time, appearance, and parameters of the failure is formed based on the actual operation data. In this case, the random occurrence generators of the faults reflect the source of the applications given to the parts in relation to the SEQTT.

Each model of the EHTT kit and the endless source can be thought of as the following unit of devices:

- Application counter with the function of recording violations of a specific element of the list;
- application processing block with the function of forming the stop time of application processing and simulating the administrative time of application processing;
- server for the provision of spare parts and reception from the high SEQTT set to restore the performance of the technical sample;
- Parts delivery time generator, which is activated when there is a spare part on the server;
- Delivery control block representing the communication device for sending the considered application to the lower SEQTT or registrar;
- a block that registers the filling of spare parts, which allows you to set the time of filling with spare parts and put the spare server in the filling mode;
- Transfer of secondary applications to a higher set, a generator that is activated when there are no spare parts on the server and the application to the application counter.

$S_{EQTT}$ The possibility of building a kit model is given in [7] and is implemented in the Simulink modeling environment of the MATLAB mathematical package [8]. In addition, a common element of the SEQTT model is the recorder, which determines the time of receipt of the signal received by the spare part and the signal of the generator to deliver the spare part.


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Taking into account the above, we construct the structure of the SEQTT simulation model (Figure 1).

Basic information for model operation: *Ji* - MTT contained in *i* – an example of a type of technique i ∈ *1, I;* $N_{\varphi I}$ - *i* – the number of elements of the nomenclature used in the sample of the type technique, φ∈1, F; F(t) – *φ* – view of the law of distribution of breakdown time in the nomenclature and its parameters, which allows us to estimate the average operating time before the breakdown; $T_{t\varphi}^{cheg}$ -*φ* – the maximum allowable time of breakdown until the restoration of the nomenclature elements; $T_{et}$ – average time to stop before the application is completed; $1^{YAG}$ - *φ* – the number of parts in the nomenclature EHTT-YA.

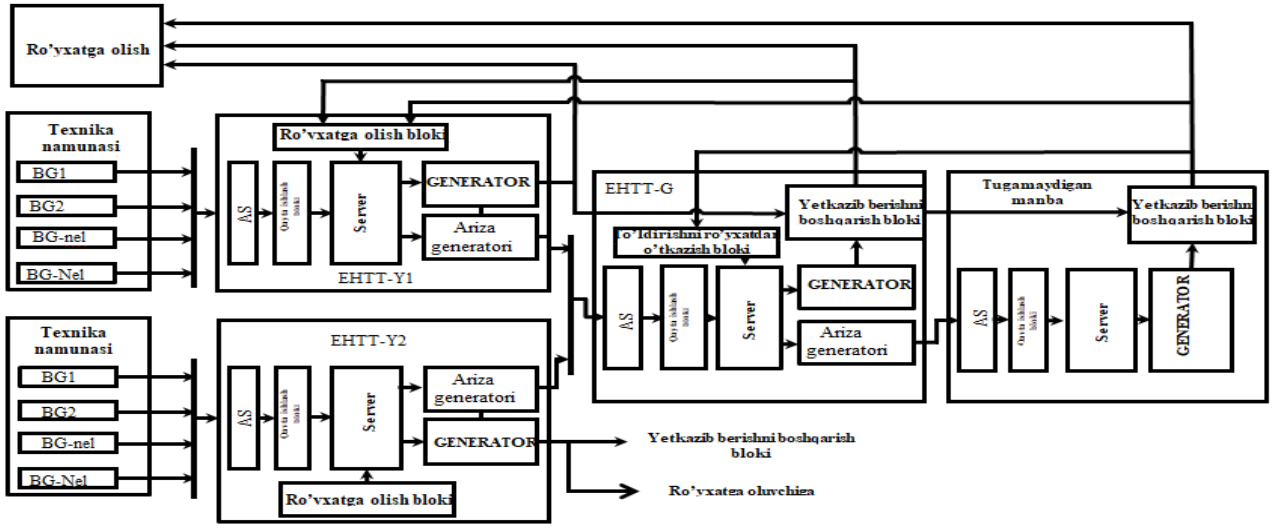


Figure 1. Modeling of spare parts supply system.

BG-Decoration Generator, AS-Application Counter, EHTT-Parts Supply System

The first step is to choose a strategy for completing the SEQTT kits. The following strategies for completing SEQTT kits will be explored: γ =1 – periodic replenishment, γ =2 – urgent replenishment.

In the second stage, for each nomenclature $S_{EQTT}$ the initial values of the spare parts on the parts server $L_{\varphi bosh}^{ya(g)}$ determined. Inexhaustible spare parts on the server $L_{\varphi}^{tug} = \infty$ we get

In the third stage, each element of the technical sample is generated by the time of possible distortions that correspond to one of the distribution laws. As a result, an array of F (t) distortions of each technique sample is formed over time.

In the fourth stage $S_{EQTT}$ The SEQTT model of the selected completion strategy is implemented.

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# TO REDUCE THE WEAR OF THE TEETH OF GEAR OIL PUMPS

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***Annotation:*** *The article presents the history of hydraulic drives, types, areas of application, advantages, disadvantages and prospects for development. The main unit of the operation - the issue of prolonging the service life of the oil pump was considered and it was proposed to reduce the wear of the teeth by reversing it, and it was shown that the service life can be doubled*

***Keywords.*** *Hydraulic drive, oil pump, condenser, safety valve, fittings.*

Volumetric hydraulic drive is used in mining and road construction machines. Currently, more than 50% of the total fleet of road construction machinery (bulldozers, excavators, motor graders, etc.) is hydrated. This is significantly different from the situation in the 1930s and 1940s, when mostly mechanical transmissions were used.

Hydraulic drive is widely used in the engineering industry, but in this field it is highly competitive with other types of drives [1].

Hydraulic propulsion is widespread in aviation. The saturation of modern aircraft with hydraulic propulsion systems means that the total length of modern passenger liner pipes can reach several kilometers. Recently, there has been a trend in aviation to switch to electronic control systems for hydraulic drives, replacing hydraulic logic circuits with electrons.

In the automotive industry, the power steering of the steering wheel is widely used, which significantly increases the ease of driving the car. These devices are a type of tracking hydraulic actuators. Hydraulic boosters are also used in many other areas of technology (aviation, tractors, industrial equipment, etc.).

Some tanks, such as Japan's Type 10 tank, use a hydrostatic transmission, which is actually a volumetric hydraulic drive system. The same type of transmission is installed in some modern bulldozers.

In general, the limits of the scope of application of hydraulic drive are determined by its advantages and disadvantages.

The main advantages of hydraulic drive are:



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the ability to universally change the mechanical properties of the drive motor in accordance with the requirements of the load;

ease of management and automation;

ease of overload protection of the drive motor and machine executive bodies; for example, if the force on the hydraulic cylinder rod is too large (when the bucket connected to the working body encounters an obstacle), then the pressure in the hydraulic system reaches high values. Then the safety system in the hydraulic system is activated and after that the fluid passes into the tank drain and the pressure drops;

operational reliability;

a wide range of step-by-step regulation of the speed of the output link; for example, the speed control range of a hydraulic motor can be from 2500 rpm to 30-40 rpm and in some cases, up to 1-4 rpm for special purpose hydraulic motors, which is difficult to implement for electric motors;

the magnitude of the power transmitted per unit mass of the drive, in particular, the mass of hydraulic machines is about 10-20 times less than the mass of electric machines of the same capacity;

self-lubrication of friction surfaces when using mineral and synthetic oils as a working fluid; it should be noted that during maintenance, for example on road construction machines, lubrication takes up to 50% of the total maintenance time of the machine, so self-lubrication of the hydraulic drive is a serious advantage;

the ability to transmit large forces and capacities with the small size and weight of the transmission mechanism;

ease of performing various types of movements - forward, turn, turn;

the possibility of frequent and rapid switching during direct and reverse movements of reciprocity and rotation;

the ability to evenly distribute the forces transmitted to several devices at the same time;

the simplicity of the location of the main components of the hydraulic drive in machines and units compared to other types of drives.

Disadvantages of hydraulic drive include:

requires high precision in the manufacture of pump parts, leakage of working fluid at high pressures in the system, especially through seals and holes;

heating of the liquid during operation, which leads to a decrease in the viscosity of the working fluid and an increase in leakage, so in some cases it is necessary to use special cooling devices and thermal protection devices;


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lower efficiency than comparable mechanical transmissions;

the need to ensure the cleanliness of the working fluid during operation, as the presence of large amounts of abrasive particles in the working fluid leads to rapid wear of parts of hydraulic equipment, widening of cracks and consequently increased leakage, resulting in reduced volumetric efficiency;

the need to protect the hydraulic system from air ingress, the presence of which leads to unstable operation of the hydraulic drive, large hydraulic losses and overheating of the working fluid;

fire hazards when using flammable working fluids, such as restrictions on the use of hydraulic drives in hot workplaces;

the viscosity of the working fluid and therefore the operating parameters of the hydraulic drive, the dependence on the ambient temperature or the high cost of the base oils;

compared to pneumatic and electric drives - the impossibility of efficient transmission of hydraulic energy over long distances due to large pressure losses in hydraulic networks per unit length.

The development prospects of hydraulic drive are mainly related to the development of electronics. Thus, the improvement of electronic systems allows to simplify the control of the movement of the output links of the hydraulic drive. In particular, in the last 10-15 years, bulldozers have begun to appear, the management of which is regulated by the joystick principle.

Advances in the field of hydraulic drive diagnostics are associated with the development of electronics and computing devices. The diagnostic process of some modern machines can be described as follows. The expert connects the laptop to a special connector on the machine. Through this connector, the computer receives information about the values of diagnostic parameters from various sensors installed in the hydraulic system. The program or specialist analyzes the data obtained and draws a conclusion about the technical condition of the machine, the presence or absence of faults and their localization. Diagnostics under this scheme are performed, for example, for some modern bucket loaders. The development of computing tools will improve the process of hydraulic drive and machine diagnostics in general.

It can play an important role in the development of hydraulic drive by creating and introducing new constructive materials. In particular, the development of nanotechnology increases the strength of materials, which reduces the weight of the hydraulic equipment and its geometric dimensions, increases reliability. On the other hand, the creation of durable and at the same time elastic materials, for example, allows to reduce the shortcomings of many hydraulic machines, in particular, to increase the pressure of diaphragm pumps.

In recent years, significant progress has been made in the production of compaction devices. The new material provides complete sealing, low friction coefficient and high reliability at pressures up to 80 MPa [1].


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Figure 1 shows diagrams of possible changes to the pump. One way to do this is to use a 4/2 distributor that is exchanged from the speed control relay via a pulse generator. This circuit is not completely reliable because when used in mechanisms, a large amount of electronic pulses can be "lost" and then shielding is required.

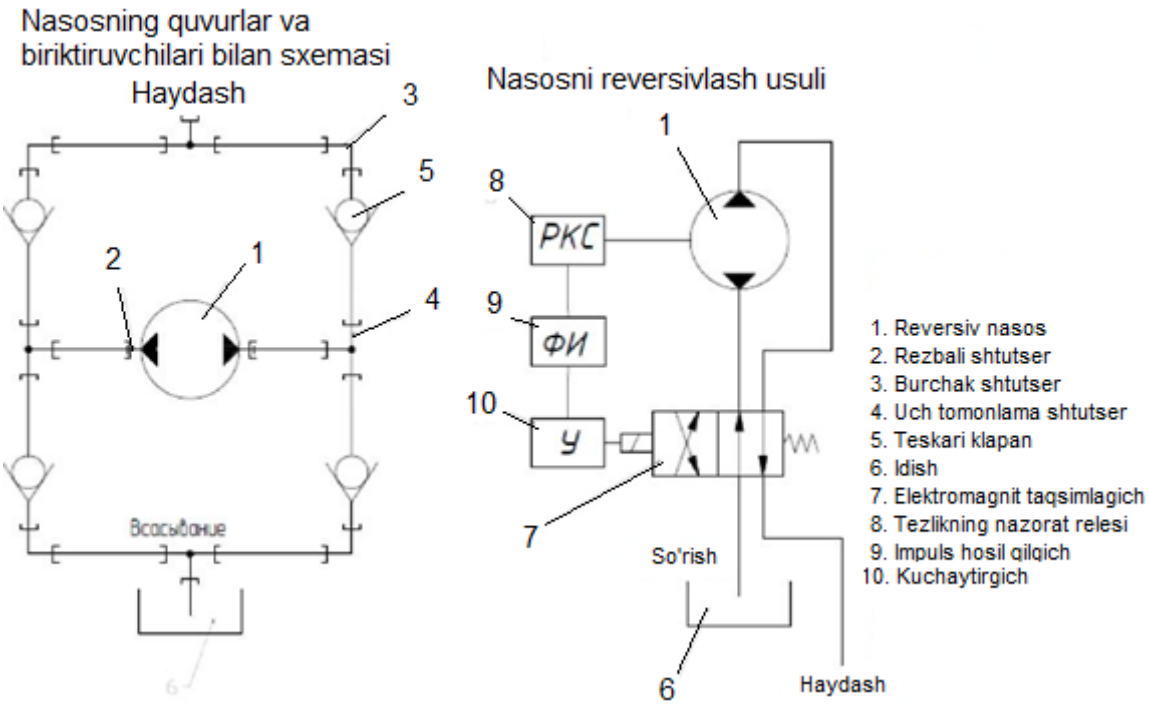


Figure 1. Methods of reversing the pump

The second method is to use storage control valves, which are more reliable than the first, with channels around the pump and four control valves. When the pump rotates, say, counterclockwise, the fluid from the pressure channel passes through the lower right level and is directed to the connection zone of the pump, the outlet, continues to move along the channel and goes down through the upper left level. When the pump is reversed, the direction of fluid flow changes, it passes through the lower left and upper right valves, and also exits the discharge cavity. Accordingly, no matter which direction the pump shaft rotates, the fluid always enters one channel (suction) and exits the other (driving).

This reversal method is the most optimal in terms of reliability and stability, as the minimum number of moving parts and the ability to quickly adjust the control valve springs make this pump easy to operate and maintain. And by placing all of this in a separate box, we practically eliminate leakage and reduce resistance so as not to use connecting fittings and conductors.


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Taking advantage of all the advantages of a gear pump, a pump was developed to lubricate the rotating gearboxes of the mining excavator and the lifting track, the feature of which was not to change the drive and suction channels when the drive reversed. The features of this pump can be applied in many fields of machinery, this work considers the use of a gear pump in heavy mining excavators.

Indicates the direction of fluid movement when the pump shafts rotate in one direction. In the return mode, the drive and suction channels do not change, but the fluid flows through the pipeline through the other two control valves.

The task in designing the pump was to place the valve and piping system and the gear pump itself in a single small housing, as 10 fittings had to be installed when using a flexible pipeline. The disadvantage of this system is that the fittings are prone to leakage, so parts of the pipes must be changed regularly to ensure full operation of the pump.

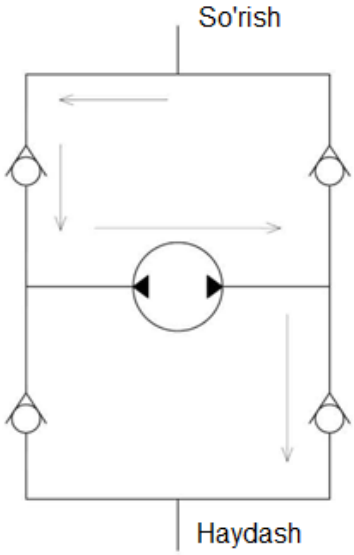


Figure 32. The principle of operation of the pump

Requirements for pumps for hydraulic transmission systems are aimed at ensuring the specified pressure and performance at minimum weights and dimensions, maximum efficiency, minimum production labor, ease of maintenance, reliable operation under operating conditions and long service life.

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# SIGNS, FUNCTIONS AND RESPONSIBILITIES OF THE ENTERPRISE

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***Annotation:*** *This article provides feedback and feedback on the brand's features, functions, and responsibilities.*

***Keywords:*** *production, enterprise development, savings, income, social relations.*

Modern enterprises are independent economic entities, and their means of production and other property do not belong to the state alone, as in the conditions of a planned economy. Therefore, enterprises are large according to the form of ownership, state and non-state, according to industry characteristics, machinery, energy, metallurgy, oil and gas industry, construction complex, food, light industry, trade, etc., production volume and number of employees, micro and small, divided into continuous, seasonal and intermittent enterprises, depending on the period of operation.

However, regardless of these characteristics, almost every enterprise operates on a statutory basis. The charter shall specify the name, address of the enterprise, the higher body and the name of this body, the statutory fund, details of banking institutions, positions of the enterprise management, responsibilities of managers, list of structural subdivisions, reporting procedure, etc.

If the charter defines the organizational and legal functions of the enterprise, its production and economic activity is based on the statutory fund, which includes fixed and current assets, cash and other assets. The statutory fund is formed by the founders - the state, legal entities and individuals in the process of establishing the enterprise in accordance with the law. The statutory fund can be increased as a result of enterprise development and expansion of production, increase in income and other financial revenues. In general, the statutory fund reflects the economic stability and financial strength of the enterprise.

The company can be described by various criteria:

In terms of production and technical relations, the enterprise is a system of machines that are quantitatively and qualitatively compatible with the volume and type of products produced, the technology of their manufacture;

in social relations, an enterprise is a relationship between different categories of employees based on their rights and obligations;

in organizational and legal relations, the enterprise acts as a legal entity;

in financial and economic relations, the enterprise is an independent branch of the industry, operating on the principles of self-financing, self-management, ie market relations.

According to the current legislation, an enterprise is recognized as a legal entity only after its state registration. The following documents are of primary importance for state registration: application of the founder; charter of the enterprise; decision on establishment of the enterprise or agreement of founders; receipt of payment of state duty, etc.

The company has certain specific features:

first, the enterprise owns and owns private property under economic management, which ensures the material and technical capabilities, economic independence and reliability of its activities;


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second, the enterprise will have the property to be liable with its own property for obligations to creditors, including the state;

thirdly, the enterprise may act on its own behalf in economic turnover, ie has the right to enter into contracts with business partners, consumers of products (works, services), suppliers of raw materials and equipment, as well as other legal entities and individuals;

fourth, the enterprise has the right to participate in court as a plaintiff and defendant in accordance with the law;

fifth, the enterprise has an independent balance sheet or estimate, takes into account the costs of production and sales of products and submits timely reports in the manner prescribed by government agencies;

sixth, the enterprise has its own firm name, which reflects the organizational and legal form of the enterprise.

According to the legislation on firm names, a firm name is an individual name of a commercial organization that is a legal entity, and the exclusive right to it arises at the time of state registration of the legal entity.

A legal entity may have an abbreviated firm name in addition to the full firm name. The name of the firm of the legal entity must indicate its organizational and legal form, in some cases, the nature of the activities of the legal entity.

Symbols that do not need to be specified in the company name may include:

official name of the state, abbreviated or full name of an international, intergovernmental or non-governmental non-profit organization;

full or abbreviated name of a person who is historical or famous in the Republic of Uzbekistan, without permission, issued in the prescribed manner;

false or misleading information about the owner of the company name, its type of activity or the country of origin;

signs contrary to the interests of society, the principles of humanity and morality;

trademarks (service marks) previously registered in the Republic of Uzbekistan in the name of another person or with an application for registration, as well as protected without registration in accordance with international treaties of the Republic of Uzbekistan;

trademarks (service marks) recognized in the prescribed manner;

signs that are identical or similar to the level of confusion with the names of places of origin of goods protected by law in the prescribed manner.

A legal entity has the exclusive right to use the name of its firm and to assign the right to use the name of this firm to other legal entities.

The exclusive right of a foreign legal entity to the name of the firm is confirmed by a document established by the legislation of the country where the legal entity is established.

A legal entity (licensor) may allow another legal entity (licensee) to use the name of its firm on the basis of a license agreement concluded between them or a complex business license agreement.

The transfer of the right to the name of the firm is allowed only in cases when the legal entity is reorganized by merger, acquisition, division and separation, or the whole enterprise is sold as a property complex.

Businesses can use the company name in the following cases:


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by reflecting the name of the company on official letterheads, seals, stamps and other documents related to the activities of the legal entity;

by using the name of the company in the goods, their packaging and packaging, advertising, headlines, printed references, invoices, printed publications, during the presentation of goods at exhibitions and fairs in the Republic of Uzbekistan.

The company name can be used as an element of a trademark (service mark).

The protection of the exclusive right to the name of the firm from its illegal use can be done in the following ways:

publication of the court decision in the media in order to protect the business reputation of the legal entity;

removal of the name of the illegally used company from counterfeit goods, labels, containers and packaging at the expense of the offender;

if it is impossible to remove the name of the illegally used company from counterfeit goods, labels, containers and packaging, to destroy them at the expense of the offender;

transfer of counterfeit goods, labels, containers and packaging to the legal entity holding the right to the name of the firm.

The activity of each enterprise consists of production, processing and processing processes. The activity of the enterprise in the field of production is reflected in the preparation of a new product for production and the organization of production. Activities in the field of reproduction are reflected in the processes of hiring labor force, training and retraining of personnel, renewal and expansion of means of production. Activity in the field of circulation is reflected in the organization of logistics of production, sales of products (works, services) and the return of used means of production in the form of income.

In the study of enterprises as a socio-economic system, it is necessary to consider two components that make it up - the system itself (enterprise) and the external environment in which this system operates. The internal environment of the enterprise consists of means of production, cash, information and human resources.

As a result of the interaction of the internal environment, a finished product is created, works are performed and services are rendered, i.e., properly organized production and labor activity take place.

The relationship of enterprises with the external environment occurs in their exit into the external system (attraction of resources, their value, timely delivery of raw materials, materials and fuel, etc.), reflected in the process of influencing the external environment through the flow of goods and services.

The external environment that determines the effectiveness of enterprises is primarily consumers of products, suppliers of raw materials and other materials, as well as government agencies and the population living close to the enterprise.

The main activities of enterprises in a market economy are:

using a comprehensive study of the market and its development prospects, to identify existing and potential customer requirements for products and services;

organization of research activities for the creation of new models and samples of products;

production of goods that meet customer requirements;

production planning, programming, coordination and financing;


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organization and improvement of the system of distribution and sale of products;

management of all activities of the enterprise, including production, sales, advertising, maintenance, etc.

Of course, the multifaceted activities of modern enterprises are not limited to the areas listed above. In practice, they can be supplemented by scientific and technological progress and new requirements of economic policy pursued by the state. However, regardless of the above, at each stage of economic development, the activities of enterprises should be focused on the following tasks:

income of the enterprise owner;
providing consumers with manufactured products;
staff salaries;
creation of jobs for the population living near the enterprise;
environmental protection;
prevent downtime in the enterprise;
improving the organization and management of production;
adherence to economy at all stages of production.

Fulfillment of current and future tasks of economic activity requires enterprises to perform the following functions:

preparation of products for production and personal consumption;
delivery and sale of products to consumers;
after-sales service;
providing material and technical basis of production;
organization and management of staff labor;
payment of taxes, voluntary or mandatory contributions and payments to the budget;
compliance with applicable standards, norms and regulations issued by the state.

These functions are determined based on the size of the enterprises, which sector they belong to, the availability of social infrastructure, and the relationship with local authorities. Today's market economy and scientific and technological progress can expand the functions of enterprises and set new tasks to further improve the performance of their activities.

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# THE ECONOMIC NATURE AND OBJECTIVE NECESSITY OF PLANNING AND FORECASTING IN A MARKET ECONOMY

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***Annotation:*** *This article provides insights and reflections on the economic nature and objective necessity of planning and forecasting in a market economy.*
***Keywords:*** *contract, market, planning, fixed and circulating tools.*

In the modern literature and manuals on economics, it is defined as a system of measures that provides for the timing, order, and sequence of work to be planned or the execution of a particular action. Everyone plans how to spend their work day, weekend, holidays, summer vacation, wedding and other events. Through precise planning and forecasting, enterprises solve a number of issues, such as what, for whom, when and how many products to produce, which partners or partners to contract or develop cooperation, to create the necessary inventory.

After the transition to market relations, planning was somewhat forgotten. There has even been speculation that the planning does not conform to the market mechanism of management or contradicts market planning.

Planning, which sets "top-down" directive tasks, control numbers, strict norms and limits for almost every enterprise, does not really fit into the market mechanism and undermines the independence of enterprises. Therefore, the legislation of the Republic of Uzbekistan on the activities of enterprises states that enterprises can independently choose their activities in terms of consumer demand, profit or income and determine the prospects for the development of production.

Planning cannot be abandoned altogether by rejecting centralized planning, which existed in the previous management system.

Only through planning do enterprises choose the most convenient options for the organization of production and technology, perform the task of timely provision of resources, determine the need for fixed and circulating assets, determine the channels and methods of product sales. In addition, planning allows for maximum use of production resources and competitive advantages, awareness of new trends in the economy, elimination of shortcomings in the operation of the enterprise and reduction of various risks. The establishment and operation of any enterprise begins with planning.

Planning as a regulatory process represents the promotion, justification, definition and interpretation of the activities of the enterprise in the near and long term. In the latter case, it may be a matter of forecasting the activities of the enterprise. Forecasting can be seen as the beginning of planning and a continuation of long-term planning. Planning and forecasting are two interrelated processes that involve conducting business on the basis of previously performed calculations, the lowest risk and the highest results.

Planning The tasks performed by the enterprise are reflected in the defined plans. In a market economy, because the plan is perceived as an "alien element" or a "command from above," current business uses concepts called indicative planning and forecasting, but in essence confirm the objective necessity of planning in all cases. Hence, planning, including indicative planning and


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forecasting, is the creation of favorable conditions for the economic activity of enterprises associated with the use of all factors for the production and sale of products and the timely preparation.

Understanding the difference between planning and scheduling is important. If planning is the process of developing plans, such as an indicative plan or forecast, a plan represents a document that reflects the technical and economic performance of the enterprise over a period of time. In other words, a plan is a materialized form of planning that defines the target functions of an enterprise and the ways in which they are implemented.

Thus, planning does not contradict the market and the market mechanism, but rather helps to determine the optimal direction of production, use unused resources and opportunities, formulate a reasonable pricing policy of the enterprise and establish effective forms of economic relations. With the help of planning and forecasting, consumer demand in the domestic and foreign markets is determined, the external economic activity of the enterprise is strengthened.

However, the mobilization of planning opportunities is not expressed in planning alone. Since planning is carried out primarily by professionals, the implementation of any plan or forecast depends in large part on the qualifications of economists, their knowledge of the methodological basis of planning, as well as production plans taking into account market requirements and the enterprise's intended profit. The more justified the development of the plan, the higher its validity and relevance to the situation in the economy.

In addition to planning, forecasting also plays a big role in business activities and the economy. Forecasting is the ability of a business entity to anticipate a situation that may occur in the future on a scientific basis. It is based on the assessment and analysis of economic, scientific, technical and social conditions that are occurring or may occur in the future, and allows the selection of alternative solutions.

Under the conditions of the previous administrative-command system, for many years the long-term prospects of scientific and technological progress and its socio-economic consequences have been developed. On its basis, individual sectors of the economy, as well as the prospects for the development of productive forces in the republics were formed. However, these predictions were not always reliable and, most importantly, were not always put into practice. This, among other reasons, led to an economic crisis in the late 1980s. In other words, economic practice did not take full advantage of the advantages of planning and forecasting. Therefore, it is important to study the world experience in the development and application of forecasts of economic activity and apply its specific features in the context of production and emerging market relations in our country.

Forecasting is reflected in the description of planning: strategic planning of production and other aspects of economic life of the enterprise is developed on the basis of medium and long-term forecasts, and current planning is developed on the basis of short-term forecasts. Both of these directions are inextricably linked, linking the production strategy with the development of science and technology and the realities of life.

The purpose of the forecast is to study the factors affecting the market, including the general state of the economy, structural shifts, investment activity, the impact of scientific and technological progress on consumers and producers, the production of "pioneer" (new) products that lead to stability and competitiveness. in determining the circumstances that may arise in the future. It is important for enterprises to forecast demand, which predetermines changes in the type and quantity of products produced. In general, forecasting is the scientific basis of planning.


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# CONJUNCTIONS IN THE HISTORY OF UZBEK AND KARAKALPAK LANGUAGES

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***Annotation.*** *This article discusses the history of the origin of conjunctions in Uzbek and Karakalpak languages.*

***Key words:*** *independent word groups, simple conjunctions, compound conjunctions, equal conjunctions, follower conjunctions.*

Conjunctions have historically evolve

d from a variety of independent word groups like other auxilaries. For example: ne… ne, kim, nechuk are formed on the basis of interrogative pronouns such as kim,ne, nechuk; taqi, dağı, yana etc. belong to the form of adverbs, developed on the basis of the functionality of these words and conjunctions such as shunin uchun (kim) and an anin uchun (kim) are formed on the basis of the addition of an auxiliary to demonstrative pronouns, but such conjunctions are very rare in Turkic languages[1].

In order to show more precisely how conjunctions are used differently in the history of language, we give examples in our scientific work as used in the sources (examples can be given in ancient Turkic, Old Turkic, Cyrillic).

Conjunctions according to the sturucture maye be:

*1) simple conjunctions: ham, yana, taqi, va, amma;*

*2) composite conjunctions: anin uchun (kim), ol sabab bilan (kim);*

*3) compound conjunctions: valekin, valek, nechuk kim.*

These conjunctions are divided into two groups according to their meaning:

Coordinating conjunctions Subordinating conjunctions

**a) coordinating conjunctions:** va, -u (-yu, -vu), ham (ham…ham), taqi || dag`i, yama, ma;

**b) correlative conjunctions:** ya, (ya.., ya…), yaki, yaxud (yaxud.., yaxud…), xāh.., xāh… (xāhi.., xāhi…), azu, gāh (gāh.., gāh…;gah..,gāhi..; gāhi..,gāh..; gāhi..,rāhi…);

**c) contradictory conjunctions:** amma, lekin, lek, valekin, valek, vale;

**d) repudiative conjunctions:** ne.., ne…; chi…, chi…[103].

Most of these equivalents are derived from Iranian or Arabic, and very few are of Turkish origin. These are basically the followings: **taqi||dag`i, ne.., ne.., yama, ma, azu.**

Three of them were in use in Uzbek until the 15th century, and the use of the **ne-ne** negative conjunction has been observed mainly since the 15th century. A group of borrowed conjunctions can

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also be found in the monuments belonging to 11th century. However, they began to be actively used in the XIII-XIV centuries.

**Coordinating conjunctions**

**Va, -u (-yu, -vy)** conjunctions were used widely in old uzbek language. Both of these conjunctions are represented by the same sign in the Arabic script و (vav). However, they also differ in origin, partial application, and function.

1. **-u (yu, -vu)** conjunction belongs to the Iranian language and is used in the old Uzbek language in the following:

a) connects the cohesive parts of speech. For example: *Pari-yu ādami mundaq xab ermes* (Lutfi). *Raqib-u zā-hid āhymdyn kuyerler* (Otoiy).

b) connects parts in a pair of words. For example:*Jahanda topmag`ay hargez kishi nām-u nishānyn* (Sakkokiy). *Barcha el ara tavzu izzati bar* (Navoi). s) sometimes it connects simple sentences in a compound sentence. However, it is used as contradictory conjunction. For example: *Falakka yetti-**yu** ul ay eshitmas*(Otoyi). *G`unchalar ochildi-**yu** qonlum ochilmaydir hanuz* (Munis).

d) sometimes connects a series of actions. For example: *Nāgihān keldi-**yu** gardini falaktāz etti dost* (Munis).

2. The conjunction **va** belongs to the Arabic language and is used in the old Uzbek language mainly in the following places[104]:

a) used to to connect simple sentences in a compound sentence. For example:*…bir xojandlik kishi yolukub,musahāba eyledi **va** suhbat qildim (Furkat).*

b) used to link one group of organized units to another. For example: *Bar-u yoq va yog`-u bar anin ehsānidin umidvār (Navoi).*

c) connects the cohesive parts: *Sozleguchige **va** kozleguchige āsāyish yetkurgey* (Navoi).

The conjunction **ham** is repeated before organized sentences or simple sentences in a compound sentence. It is used not only as conjunction, but also it serves to emphasize meaning. For example*: Mavlānā Ali Shihāb… **ham** ravān puxta aytur ekendur (Navoi).* “Ham” is often used to highlight an object, event, or action to reinforce its meaning. For example*: Husn malāhatin idrāk qilg`uchi **ham** kenul va ishq oti yalinig`a yaqilg`uchi **ham** kenul (Navoi).*[2]

Taqi || dag`i is characteristic of the language of ancient monuments and is widely used in the old Uzbek language. This conjunction was found in the form of a taqi until the fourteenth century and later in the form of dag`i, sometimes in the form of taqi. This conjunction also connects cohesive parts and simple sentences in compound sentences. For example: *Hajrinda, begim, “degum **dag`i** olgum (Otoyi).*

The conjunction taqi || dag`i also often serves to reinforce the meaning of highlighting an object, event, or action. For example: *Ana **taqi** bug`day bereyin (Rabguzi).*

In the monuments of the XIII-XIV centuries, this conjunction is sometimes found in the form of dahi, taqin: *Yusuf **dahi** zulayhāg`a qasd qildi (Rabguzi).*

The conjunctions **yeme,ma** are widely used in ancient monuments, as well as in monuments of the XIII-XIV centuries.[3]

[2] Ashirboev S., Azimov U “O’zbek tilining tarixiy grammatikasi” Toshkent., 2001-y.101-105 betlar.

[3] Abdurahmonov G’., Shukurov Sh “O’zbek tilining tarixiy grammatikasi” Morfologiya va sintaksis., Toshkent., “O’qituvchi”., 1973., 226-228 betlar.


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According to usage and meaning it is similar to taqi/dag`i. For example: *Nechuk ke kezdi yalg`uz tag`lar ara || **yeme** chimgen chechekler, bag`lar ara (Xisrav and Shirin). Biz **ma** bozchilik qilalim, tediler (Rabguzi).*

**Correlative conjunctions**

The conjunction **ya** is used to distinguish one of the organized parts or simple sentences in a compound sentence from the other.For example: *Shakardur ul ag`iz **ya** pista, bilmen (Lutfi).*

This conjunction is also used in a repeated form **(yā…, yā…)** before organized units of sentences or in simple sentences of compound sentences.

In this case, the meaning of correlation highlighted and emphasized

For example*: **Ya** visalinin karam qil, yā meni ɵltur ravān (Otoyi).*

*In later manuscripts this conjunction is also found in the form of **yaki:** Osmaliq qashlar-mu ya shamshir qandin zangliq||yāki pistaqi tokulmish rangi ahzār ustide (Furqat).*

*The conjunction **yāxud** (yāxud.., yaxud…) is similar to the conjunction **ya** both according to the use and meaning: Bilmen,ul maktub erur yaxud alifdur jān ara (Navoi).*

In the old Uzbek language, the word **xah** is sometimes used as a separator. This word is repeated when used as a conjunction: xāh… xāh is sometimes found in the form xāhi… xāhi. *Sen bilursen xāh lutf et, xāh qil kib-u dimāg` (Otoyi).*

In the language of ancient monuments, the word **azu** is widely used as a correlative conjunction. This conjunction is sometimes found in some monuments of the XIII-XIV centuries. It also comes with **ya**. For example: ***Azu** qiypar-mu-sen,**azu** tutar-musen anlarin ichinde ezgulik (Taf).*

The conjunction **Gāh** is used repeated and comes as the following forms:

**gāh.., gāh…; gāh.., gāhi..; gāhi.., gāh…; gāhi… gāhi…**

This conjunction has the following meanings:

a) when repeated before organized units of sentences and simple sentences in a compound sentence, it indicates that two actions or two events are alternating. In turn .For example: **G*āh*** *qilur javr-u jafā, **gāh** ke korguzur mehri vafā (Otoyi).*

b) when conjunction **gāh** used in repeated form it indicates that an action or event is repeated from time to time . For example: Taparda āstāninda panā hi|| meni kozler-mu erkin **gāh-gāhi** (Navoi).

**G*āh*** is sometimes used alone. In this case it shows the rapid occurance of events or connection between two concepts of the opposite meanings.For example: *Bibi Ybāydā bolodur xālamiz || **gāh** kelur erdi kichik balamiz(Muqimi).*

**Contradictory conjunctions**

The conjunction **Ammā** indicates the relationship between two words or two sentences that have opposite meanings.For example: *…biz ham kerduk, **ammā** bilmeduk hech (Navoi).*

The conjunctions **lekin, lek,valekin, valek, and vale** are interconnected according to the form and are the same in use and meaning, that is, they occur between words that have opposite meanings and indicate the relationship between them.

The forms **lek and valek** are found only in poetry: *nāla tartar-men visolin arzusi birle, **lek** || yetmes,ey kâfirvashni, men tartg'an afgān sene (Munis). Ashkāra fitnadur, **lekin** qilur pinhān balā (Lutfi).*

*Kop jadal qildim, **valekin** topmadim bazming`a yol*(Furqat).


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*Qazar-men uyla ke Farxād dard-u gam tag`in || valek tirnagim oldy qazarda teshe mene* (Munis). *Min jānim bolsa enin uchun bergey-men, vale bu ishni qilmay-men.*

**Repudiative conjunction**

**Ne-ne-…** repudiative conjunction was used in the old Uzbek language. This conjunction is repeated before organized units of sentences or simple sentences in a compound sentence and denotes negation: ***Ne*** *pari oxshar sene husn ichre, ne ins-u malak* || ***…ne*** *suyub senden toyar konlum* ***ne*** *baqib kozlerim (Otoyi).*

In "Shaybaniynoma" the repudiative conjunction **chi...chi**..was used. It is often used interchangeably with **ne… ne**…, and sometimes means ham,...ham... . For example: Chun vayatqa kirdi ul sultān || qildi yarlig ke, **chi** yaxshi, **chi** yaman (Shaybaninoma).

**Subordinating conjunctions**

Subordinating conjunctions are very few in the language of ancient manuscripts: **kim, qalti, qali, abam, aban, birok (biruk), teb || tiyin, ani uchun, anin**.

They are also used mainly in ancient Uyghur sources, and are only a few in the Orkhon-Yenisei manuscripts. Many of these conjunctions later became obsolete.

Most of the subordinating conjunctions available in modern Turkic languages such as in Uzbek have been borrowed from Iranian or Arabic in certain historical periods. Some of them are also used in sourcess of the XI-XII centuries most of them are found in later sources.

**Kim, ke** subordinating conjuctions were used actively In the old Uzbek language. **Kim** is originally Turkic word and **ke** was borrowed from the Iranian language.

The conjunction **kim** serves to connect the main clause and subordinative clause : *Vah nedindur* ***kim****, yubarmas-sen navāzish nāmam…*(adverbial clause of cause). (Munis)

Men ul shart birle musuklmān bolur-men **kim,** meni olsan (Rabguzi). (used in adverbial clause of condition).

The function of the conjunction **kim** was wide and involved in almost all types of adverbial clauses in the old Uzbek language.

In addition, **kim** is widely used in direct speech in the old Uzbek dialect, that is to connect the author's sentence with indirect speech. For example: Bazi dedilar ***kim****, yazga alg`ay-biz .Xān huki qildi* ***kim,*** *hech kim mendin qalmasun teb (from"Shaybaninoma").*

The conjunction **Ke** dates back to the 13th and 14th centuries. However, it was used actively from 15th century.

This conjunction is similar to **kim** in terms of meaning and function. The difference is that **ke** is actively used in poetry and is rarely used in prose, **kim** is widely used in both genres.

In the old Uzbek language, **ke** was used to connect parts of different types of adverbial clauses as **kim**. For example: *Atayiga ināyat qil ke shahlar || sorarlar gāh gāhi hol gadāni* (Otoyi). *Kishi* ***ke*** *oz janig`a eter,seni sevsun* (Lutfi)

Conjunctions **kim,ke** are added to some words and conjunctions to form compound conjunctions ,such as: t**āke, chunkim || chunke, netek kim, nechuk kim.**


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# MAIN FACTORS OF SYNTACTIC DEVELOPMENT OF ENGLISH AND UZBEK LANGUAGES

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***ABSTRACT:*** *The fact that scientific research on punctuation is one of the most important researches in the field of linguistics shows that today the means of achieving polished speech are being studied in depth. And the essence of the content of the views on the research conducted in this regard is revealed.*

***Keywords:*** *punctuation, interpunction, language norms.*

When we look at the history of writing, we can observe a variety of symbolic characters. The formation of letters representing speech sounds consists of several stages. When we look at the history of writing, we see that pictographic, ideographic, and other writings were formed and developed on the basis of each other. Archaeologists have identified the following types of writing: pigtographic (Greek pictus - drawing, grapho - writing), ideographic (Greek idea - concept and grapho - writing) and phonographic (Greek phone - sound, grapho - writing).[1]. The language in which people have sound is associated with the history of writing and written monuments of the last millennium. Just as writing was in the past, now it has developed into a developed and comfortable look.

It is known that a set of rules for the use of punctuation marks an independent section in linguistics *punctuation* [lat. pūnctum point] and was called *interpunction* in ancient times. Interposition also served as a theory of the use of punctuation in written speech, regulating the syntactic structure of speech according to certain rules, distinguishing between speech and parts of speech, and clearly expressing the difference between oral and written speech. The main basis of the term interpunction dates back to ancient Rome. However, there is no evidence that it was used in the preceding period or that Aristotle was aware of interpunction. Although the earliest period of interpunction was associated with the Greek school of grammar, it differs from the modern concept of interpunction in the ancient Greek and Roman grammatical schools in that it adheres to the requirements of rhetoric, i.e., the use of punctuation and punctuation. need to do. The Greeks used only: a single mark - a dot - placed at the top of the line, or in the middle and at the bottom. Nikanor, also from the Greek school of grammar, used 8 characters in the punctuation system[2]. However, their attempts only led to a mixture of syntactic and logical content of speech, for which no clear rule has been developed. Until the relative increase in the number of characters created by the Venetian publisher Ald Manutsi, applied according to certain norms, misunderstandings about the rules of characters continued until the fifteenth century. It is precisely because of the privilege of regulating the use of punctuation that Manutzi was considered the "father" of punctuation.[3] Differences can be observed in the application of certain punctuation marks in European peoples. Later, in Russian, the number of punctuation marks included "semicolon, colon, question and exclamation mark, hyphen,

[1] Golovin B.N. Introduction to linguistics. Ed. 3rd, rev. - M.: Higher School, 1977. - 311 p.
[2] Steinthal, "Geschichte der Sprachwissenschaft bei d. Griechen und Romern", vol. II, Berl. 1891, pp. 348-354
[3] M. V. Lomonosov. Russian Grammar, St. Petersburg, 1755, p. 492.


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quotation mark, parentheses." It should be noted that important features of written speech consist not only of punctuation, but also of other signs, for example:

1) Numbers;
2) Special scientific symbols - belonging to algebra, geometry, chemistry, astronomy;
3) Punctuation (punctuation);
4) Diacritical signs;
5) Partial capital letters.

Numbers and special scientific symbols represent ideographic logograms, and the number is derived from the Arabic word *"sifr"*, which means *zero*, i.e. *space*. Punctuation does not belong to the group of ideographic logograms, and in Greek - punctuation based on the first phonetic-sound system, as well as in Latin - in medieval monuments punctuation, such as dots and dashes, was used to distinguish words. Later, the complexity of the syntactic structure of written speech, as well as "the development of the art of oratory, began to be used not only to separate words in the written text, but also to express pauses in oral speech".[4]

It should be noted that today the study of punctuation as a system, that is, a modern linguistic paradigm that changed the theoretical chain of study of nonverbal components of text and speech, and modern linguistics requires the study of written speech within a specific field. Consequently, written speech is of great importance in the life of a human society, and the combination of the three levels, i.e., graphics, spelling, and punctuation, serves to express the literary norm. However, when it comes to the norms of literary language, it is worthwhile to mention not only the levels whose names are listed, but also the fronts that are actively involved in the expression of speech. In order to clarify our point, we will focus on the meanings of the lexical unit "norm".

According to a number of English linguists, "the norm is the oral and written forms adopted by the intelligentsia in the light of regional changes."[5]; "Is a universally accepted principle or model"[6]. According to Russian linguists, the norm is a "socially accepted rule"[7] that "one of the functional variants of language units based on historical principles is"[8] chosen by speakers of the same language for "oral and written communication."[9]

R. Kungurov, E. Begmatov and Y. Tojiev, who studied the issue of speech culture on the example of the Uzbek language, describe the literary norms as follows: "Norm is the use of a popular variant of language elements among the people."[10]. Another Uzbek linguist, A. Mamatov, explains 23 features of the norm in his work on literary norms. [11].

Based on the above considerations, the literary norm can be defined by English, Russian and Uzbek linguists as follows: a literary norm is a unit of language or a form of language that reflects

[4] *O.A Dobiash - Christmas. History of Writing in the Middle Ages, p. 176.*
[5]Biber Douglas. Variation across Speech and Writing. - New York: Cambridge University Press, 1992. - P. 34.
[6] Gerald P.D., James J.G. The English Language. From sound to sense. – Colorado: The WAC Clearinghouse, 2010. – P. 23.
[7]Gorbachevich K.S. Norms of the modern Russian literary language. - M.: Enlightenment, 1978. - P.76
[8]Golovin B.N. Fundamentals of speech culture. - M.: Higher School, 1980 - P.15
[9] Vvedenskaya L.A., Pavlova L.G. Culture and art of speech. Rostov-on-Don: Phoenix, 1995. - P.86
[10]Kungurov R., Begmatov E., Tojiev E. Fundamentals of speech culture and methodology. - T .: Teacher, 1992. - 160 p.
[11]Mamatov A.E. Problems of lexical and phraseological norms in modern Uzbek literary language: Filol.fan.d-ri. ... diss. avtoref. - T., 1991. - 56 p.


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the history and present of a particular nation, its social life, has dynamic and variable features, and is considered normative for use by language owners.

As a result of research in the field of speech culture, no agreement has yet been reached on the essence of such terms in linguistics as norm, norm of language, norm of literary language. It should be noted that the concepts of *norm* and *literary* language are not clearly defined in the specialized literature. Often a *norm* is described as a "set of laws" rather than a system of rules[12]. In some definitions, the authors view the concepts of norm (language) and literary norm as synonyms, "rules of pronunciation, grammar and other language tools, rules of word usage adopted in the practice of speech of scholars"[13].

According to KS Gorbachevich, a Russian scholar of literary language norms, "a norm is not only a socially accepted rule"[14], but also "a set of rules objectified in real speech activity, reflecting the laws of the language system and its evolution."[15]. Comparing all the ideas about the norm, B.N. Golovin came to the conclusion that[16] "the norm is the choice of one of the functional variants of language units by speakers of the same language, based on the principles of history", showing its variability and variability. English and Uzbek linguists have also paid attention to this issue [17].

In the explanatory dictionary of the Uzbek language the word "norm" is interpreted as follows: "norm [a. مهيار - measurement, basic measurement; template] 1 A formalized, universally accepted, universally binding, legally binding procedure" [18]. In Uzbek, the words *mezon*, *qonun-qoida*, *me'yor* and *qonuniyat* are also used as synonyms for the word norm[19].

Depending on the level of application at the language level and the scope of application of linguistic means, the norm is divided into the following types [Figure 1 [20]]:

[12] Veselitsky V.V. Norm and option // Russian language at school, 1967. - No. 5. - P.30
[13] Graudina L.K. Russian language: Encyclopedia. - M .: Bustard, 1997. - P. 163
[14]Gorbachevich K.S. Norms of the modern Russian literary language. - M.: Enlightenment, 1978. - P.76
[15]Gorbachevich K.S. Word variance and language norm (on the material of the modern Russian language). - L .: Nauka, 1978. - P. 46
[16]Golovin B.N. Fundamentals of speech culture. - M.: Higher School, 1980. - P.15
[17]Vandries J. Language: a linguistic introduction to history. - M.: State socio-economic publishing house, 1937. - 410 p.; Esperson O. Philosophy of Grammar. - M.: Publishing house of foreign literature, 1958. - 400 p.; Paul G. Principles of the history of language. - M .: Publishing house иностранный литературы, 1960. – 500 c.; Blumfield L. Yazyk. - M .: Progress, 1968. - 608 p .; Kungurov R., Begmatov E., Tojiev E. Fundamentals of speech culture and methodology. - T .: Teacher, 1992. - 160 p .; Abdurahmonov G., Mamajonov S. Uzbek language and literature: A textbook for students of non-philological groups of higher educational institutions, where classes are conducted in Uzbek. - T .: Uzbekistan, 2002. - 352 p .; Sayfullaeva R.R., Mengliev B.R., Boqieva G.H., Qurbonova M.M., Yunusova Z.Q., Abuzalova M.Q. Modern Uzbek literary language. - T .: Science and technology, 2009. - 416 p .; second edition: 2010. - 404 p.
[18]Annotated dictionary of the Uzbek language. - T .: National Encyclopedia of Uzbekistan, 2006. - Volume 2. - B. 585
[19]Abdurahmonov G., Mamajonov S. Uzbek language and literature: A textbook for students of non-philological groups of higher educational institutions, where classes are conducted in Uzbek. - T .: Uzbekistan, 2002. - 352 p.
[20] Moskvin V.P. The correctness of modern Russian speech. Norm and options. - Volgograd: Change, 2004. - P. 37 / 149 p.


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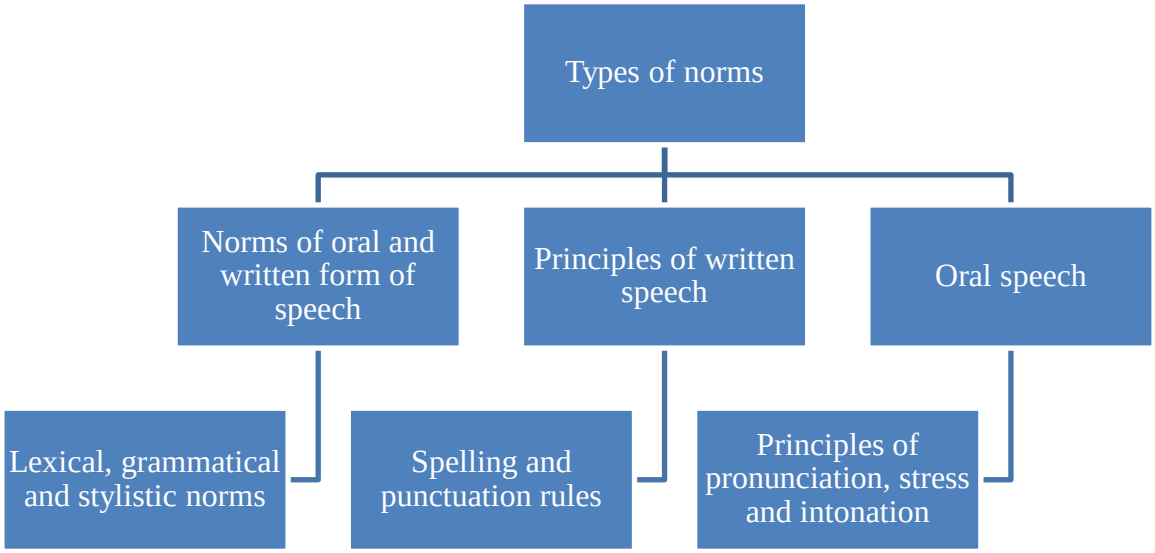


This means that the norm is more prominent in the text and is "strengthened" in it[21]. The norm is codified in writing. Codification ensures that the norm does not change overnight [22]. However, codification recognizes the existence of variability. Speech, on the other hand, is the application of the norms of literary language in practice, or the realization of sounds.

According to E. Begmatov and A. Mamatov, "literary language as a common tool of the members of the society using it should be equally understandable, easy to use and acceptable to many. In addition, literary language and its linguistic means must be in harmony with the aesthetic and ethical requirements, cultural and spiritual needs of the members of the language-speaking society. "[23].

[21] Begmatov E., Mamatov A. Literary norm theory. - T .: Navruz, 1997. - 92 p.
[22]Itskovich V.A. The norm and its codification // Actual problems of the culture of speech: Sat. articles. – M.: Nauka, 1970. – P.9-37.
[23] Begmatov E., Mamatov A. Theory of literary norm (laws of formation and existence of literary norm). - T .: Navruz, 1999. - B.4


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# The importance of English in the study of economics

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***Annotation:*** *Billions of people around the globe are desperately trying to learn English—not simply for self-improvement, but as an economic necessity. It's easy to take for granted being born in a country where people speak the lingua franca of global business, but for people in emerging economies such as China, Russia, and Brazil, where English is not the official language, good English is a critical tool, which people rightly believe will help them tap into new opportunities at home and abroad.*

***Key words:*** *English, economics, importance, learning, study, language, opportunities.*

Research shows a direct correlation between the English skills of a population and the economic performance of the country. Indicators like gross national income (GNI) and GDP go up. In our latest edition of the EF English Proficiency Index (EF EPI), the largest ranking of English skills by country, we found that in almost every one of the 60 countries and territories surveyed, a rise in English proficiency was connected with a rise in per capita income. And on an individual level, recruiters and HR managers around the world report that job seekers with exceptional English compared to their country's level earned 30-50% percent higher salaries.

The interaction between English proficiency and gross national income per capita is a virtuous cycle, with improving English skills driving up salaries, which in turn give governments and individuals more money to invest in language training. On a micro level, improved English skills allow individuals to apply for better jobs and raise their standards of living.

This is one explanation for why Northern European countries are always out front in the EF EPI, with Sweden taking the top spot for the last two years. Given their small size and export-driven economies, the leaders of these nations understand that good English is a critical component of their continued economic success.

It's not just income that improves either. So does the quality of life. We also found a correlation between English proficiency and the Human Development Index, a measure of education, life expectancy, literacy, and standards of living. As you can see in the chart below, there is a cutoff mark for that correlation. Low and very low proficiency countries display variable levels of development. However, no country of moderate or higher proficiency falls below "Very High Human Development" on the HDI.



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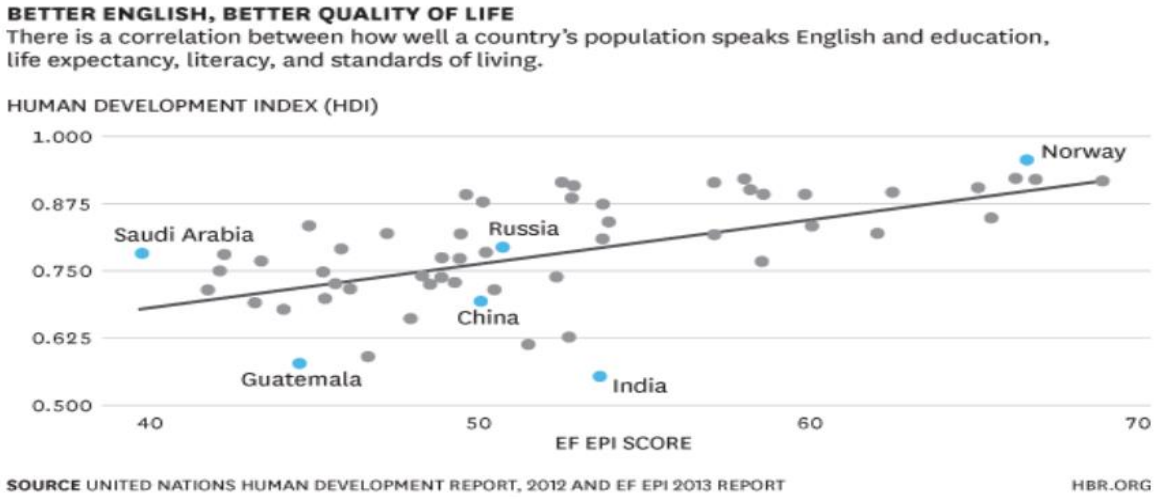


**1-picture**

For business leaders, knowing which countries are investing in and improving in English can give valuable insight into how a country fits into the global marketplace and how that might affect your company's strategy. Here are just a few of the questions you might consider:

- Which countries are aggressively improving their English proficiency in an effort to attract businesses like mine?
- Where could poor English hinder the growth of emerging economies?
- In which countries should I target my international recruitment efforts?
- As we think about expanding globally, where will my existing, native English-speaking employees find it easiest to relocate?

Business leaders who understand which nations are positioning themselves for a smoother entry into the global marketplace will have a competitive advantage over those who don't. Your company needs to know how the center of English language aptitude is shifting. Because knowing English is not just a luxury—it's the *sina qua non* of global business today.

English language plays an essential role in our lives as it helps in communication. It is the main language for studying any subject all over the world. English is important for students as it broadens their minds, develops emotional skills, improve the quality of life by providing job opportunities.

Moreover, the use of English as an International language is growing with time because it is the only medium for communication in many countries. English is also used widely in the literature and media section to publish books, most of the writers write in the English language due to the vast majority of readers know only the English language and they can describe their ideas best in the English language.

As we are aware that English language skills depend upon four core skills. These skills are essential for learning the English language that is:

- Listening skills: It improves the imagination and vocabulary of a learner. While listening we used to visualize the scene and memorize in our memory.
- Speaking skills: When a learner speaks, he gets to know his mistakes and he can improve it further.


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- Reading skills: Reading a book or a passage helps in improving the vocabulary and concentration of a learner.
- Writing skills: When we write we get to know, what we are writing and do we know the spellings of all words.

If a student master these four skills then his English will automatically improve and gain confidence in presenting his skills.

Why Learning English language is important?

- Perfect communication – It is important to speak effectively. People get impressed by those who have good communication skills.
- Gain Confidence – If you own good communication skills then your confidence will automatically be high.
- Achieve your goal early – Effective English language skills help you meet your career goals quickly.
- Effective personality – When we speak effectively and with confidence, anyone can get attracted.
- Part of the Global community – English language is a part of the global world. So, if one knows good English then one can interact with others.
- Multiple Career Prospects – A person possessing effective communication skills have more career opportunities than others.

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# THE IMPORTANCE OF MODERN METHODOLOGIES IN TEACHING RUSSIAN LANGUAGE TO STUDENTS

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***Annotation:*** *This article provides information about the methodology of teaching the Russian language, the history of its development as a science, the types of modern methods used in the teaching of the Russian language and their use.*

***Keywords:*** *Development, language learning, society, Russian, knowledge, skills, qualifications, didactics, thinking, modern languages, communication.*

The development of modern education has led to a new direction of innovative pedagogy. Innovative - English means “introduction (dissemination) of innovation”. The socio-psychological aspect of innovation was developed by American researcher E. Rodgers. He studied the classification of participants in the innovation process, their attitudes toward innovation, and more. In scientific areas, the concepts of novelty and innovation differ. “Innovation” means a tool, a new method, technique, technology. "Innovation" is an education, a process that develops at certain stages. The development of world science is gaining momentum day by day. It is this positive development that has affected our country as well. Advanced innovative technologies are being applied to the world of science. It is safe to say that the widespread application of advanced, modern innovative technologies in the field of education has opened a wide range of opportunities and milestones for young people learning Russian.

Language learning is one of the most important areas in human society. Language, which is a means of communication, can be practiced in a natural environment, that is, in the family, in the community, or in an organized manner. Knowledge of linguistic phenomena is taught theoretically. In today's world of international relations, knowledge of languages, especially multilingualism, is of great importance. Pupils and students studying in our country usually learn three languages. These languages are referred to by special names. These are: native language, second language, and foreign language. The mother tongue is the first language to play a special role in the formation of thinking. When it comes to the second language, it is considered to be the language of the brothers and sisters of other nationalities, the language of the neighbors.

Russian is a foreign language. Russian language is taught in our republic. These languages are included in the curricula of educational institutions. The process of teaching three languages is different. The mother tongue and the second language are natural, and communication in Russian takes place mainly in the classroom under the guidance of a teacher. Among the three languages, there are sharp differences in certain aspects of learning and teaching Russian. This, in turn, requires the use of appropriate Russian language teaching technology. By thoroughly mastering the



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achievements of the methodical science, the Russian language teacher achieves a clear understanding of the norms of language experience of the student and its further improvement. Effective teaching of Russian requires knowledge of its methodology. The study and teaching of the Russian language depends in many respects on the theoretical development of the methods of teaching the Russian language and the creative application of the theory in practice. methods, the science of Russian language teaching, the study of teacher and student activities are the subject of methodology. The basic concepts of methodology - method, method, principle.

Didactics - what do we teach? is the content of training. Methodology - how do we teach? means teaching methods and techniques. The concept of method is derived from the Greek-Latin word "metodos-" metodus ", which means the way to a specific goal, the method. In various literatures, the term can be found in a narrow and broad sense." Methodology "The term in a narrow sense refers to the concept of a specific course of learning. It is interpreted as a managed course of action that includes instructions related to lesson planning and the preparation of teaching materials." Method The term "didactics" and "methodology" have been used in a narrow sense in the Federal Republic of Germany since the 1960s. What is taught? How is the methodology taught? The study of the Russian language is not only a means of intellectual education, but also an acquaintance with the educational riches and values of other cultures and their application. z cultural h is the process of forming a person's personality by applying it to life. The methodology of teaching Russian as a science has a history of more than 200 years. During this period, it is possible to observe different approaches to the methodology of teaching the Russian language. One such view belongs to academician L.V. Shcherba. In his view, the teaching methodology of any subject is not a theoretical science, even though it is a science.

The term method is used to mean "set of teaching methods" and "direction of teaching". The first is used in the theory of education in the sense of process methods, while the second sense can be found in works on the history of teaching methods. For example, the method of translation of Russian language teaching, the correct method, the comparative method, the traditional method, the intensive method, etc. Natural and social phenomena are interconnected and develop in a continuous relationship. Since the sciences are the reflection of objective reality, none of them exists in isolation from the others. An event and a subject can be a source of research for many disciplines at the same time, for example, the study of the social phenomenon of "language" from its point of view linguistics (psychology), psychology (psychology), pedagogy (didactics). The term "Russian language methodology" evokes in the human mind the association "connection": first, a set of methods and methodological approaches to language teaching, or scientific knowledge of teaching methods, and finally, independent pedagogical science comes to mind. The methodology of teaching the Russian language has developed in harmony with didactics, in an interconnected way. It is well known that the teaching theories of all disciplines are based on the science of didactics, from which they receive scientific nourishment. Russian language teaching is also based on didactics.

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# THEORETICAL BASIS OF EXPORT DIVERSIFICATION

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***Annotation:*** *This article discusses some issues such as enhancing the theoretical foundations of export diversification in the region, its components, the formation of diversification and the main factors of exports.*

***Keywords:*** *Export, diversification, innovation, market economy, National economy, modernization, foreign trade, unemployment, economic growth, manufacturing, stocks, stock markets, financial structures, crisis.*

In the development of the national economy, as market participants organize their business activities, they pay special attention to the issues of diversification. Because diversification in the changing processes of a market economy is one of the priority strategies in determining the market position of any enterprise. Diversification is a process that enables enterprises to grow more widely.

In any business, even the most successful business cannot function without change for a long time. In other words, if an enterprise can run a successful business, it will constantly change, expand, and embrace more and more opportunities. At the same time, diversification is essential to increase the sustainability of a growing business and significantly reduce the risk of significant losses under the influence of changing circumstances.

As you know, due to the variability of the external environment, the resilience of any business is always checked. Because the business is always aware of the news, the issues of maximizing profits based on flexibility in the business environment are among the priorities.

Diversification is a multifaceted, complex, and controversial process. The methods, mechanisms, goals and objectives of its implementation are different, which makes it difficult to give a single definition that fully reflects its economic content. However, the essence of all diversification processes is the same. The sharp change in the socio-economic and scientific-technical conditions of industrial enterprises has led to a change in the demand for management to adapt to the external environment, the situation.

Diversification -

1) the type of product strategy, based on which the company expands the number of products;

2) simultaneous expansion and development of two or more unrelated types of production in order to capture new markets and generate additional profits.

"Diversification" is a new Latin word that means diversificatio, meaning change. The Latin diversus means "to diversify" and facere to "diversify". In other sources, it means "change, diversity, multi-faceted, combined, multi-sectoral approach to something" Due to diversification, the market is saturated with different goods and services. A large assortment of goods enters the market.

Hence, diversification is used to expand the range of products and redirect trade markets, to develop new types of production in order to increase production efficiency, to generate economic benefits, and to prevent bankruptcy.


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The term "diversification" has been widely defined by Western scholars. Their definitions have been improved by changes in production conditions and the development of productive forces. In short, the definitions of diversification are as follows:

1. The principle of multifaceted ownership (private, public and state property).
2. The principle of economic freedom within the established spiritual and moral territory.
3. The principle of social justice.

Thus, the diversification of production means the simultaneous development of many unrelated types of production, the expansion of the range of products produced within a single enterprise, that is, the creation of large enterprises in the form of concerns.

In the scientific literature, the word diversification has been interpreted differently by many economists. For example, V. Konoplitsky and A. Filina described "Diversification is a new marketing strategy in which the firm pursues a new type of activity in addition to its core business." According to these economists, diversification in the management of firms includes activities that take into account changes in the market: changes in market conditions, the introduction of new techniques and technologies, scientific advances.

U.S. economist F.S. Mishkin briefly described it as "diversification is the acquisition of more than one asset." Although this definition is more original in nature than the opinions of other authors, it is one-sided, limiting the content of its content. In the specialized literature, the word diversification means a step-by-step, break-down analysis of activities to reduce risk. In this regard, the definition given by Professor L. Lopatnikov is aimed at broadening the concept of diversification. According to him, diversification is a strategy to reduce the risk of the enterprise by allocating investment and other resources to the production of different goods and services.

The description given by the economist MV Mishkevich in revealing the essence of diversification does not correspond to the opinion of L. Lopatnikov. According to him, diversification is defined as the re-specialization of an enterprise, its adaptation to production.

Among the modern definitions of the diversification process, as defined by the British economists Bennock, Baxter and Davis, "diversification is the expansion of the range of goods and services in a firm or geographical area." This shows that diversification is seen in this definition as a process, with a focus on its outcome. According to them, the need for diversification is associated with a decrease in the level of profitability of enterprises and firms in traditional markets, the availability of excess capital or management resources, economic risk and reducing the dependence of enterprises on cyclical processes.

The following definition is more precise and broad, in which diversification is interpreted as a process and an activity carried out by certain entities: “Diversification is an increase in the type of goods and services produced by a particular enterprise or conglomerate or economy. Diversification is a natural process in the economy. In some cases, it is done by business owners or the government to reduce the risk of becoming dependent on a narrow range of products (especially when demand for them is changing). ” This definition is also noteworthy because it covers the micro and macro levels of diversification. However, it does not fully address the reasons for diversification.

This is because diversification is not just about eliminating dependence on a narrow range of products.

It can also be done to conquer new markets, increase the share of traditional markets, look for new areas for capital, retain the workforce, and more.


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The term was defined by the country's economic reformers as follows: “Diversification is the process of increasing and expanding the range of products and services that provide high value-added growth dynamics. The process of diversification is directly linked to the ongoing modernization and structural changes in various sectors of the economy. "

To think and express the word diversification only in relation to the activities of enterprises and firms shows that there are certain limitations in the disclosure of the meaning of this word, - say our economists. According to economists of the country, the method of diversification can be used not only in the activities of firms, but in all sectors of the economy, in all legal entities and individuals, as a way to reduce the risks involved in their activities and ensure certain efficiency and high returns.\

Many economists have commented on the application of diversification to exports in economic sources. Export diversification is the diversification of exports, which is defined in various economic scientific sources.

In particular, electronic sources on the Internet state that "export diversification - an increase in the types and names of products and services for export", "export diversification creates conditions for economic maneuverability, eliminating the negative impact of adverse economic conditions on the economy expands its capabilities. "

According to Russian economist IS Gladkov, "Export diversification is an increase in the number and types of commercial products and services for sale abroad. In modern international trade, this process is associated with the constant updating of the range in the context of ITT. According to IS Gladkov, if the continuity of scientific and technological progress is ensured, the opportunities for diversification of exports will expand. Economist AS Zakharov said that "the prospects for diversification of exports from the CIS countries are mainly related to the development of mutual trade, the growing role of intra-sectoral exchange and the development of cooperation between enterprises." At the same time, Zakharov noted that due to the diversification of exports, the role of national currencies in mutual settlements will increase.

Specialization and diversification, which are asymmetrical forms of organization of production, have been used in production at different stages of development of society in different proportions. Diversification processes have been accelerating, especially since the mid-1950s. One of the main reasons for this is that the acceleration of scientific and technological progress during this period has led to competition between enterprises and firms. As a result, the profit margins of enterprises have become relatively equal, and the sources of specialization based on increasing production efficiency have relatively exhausted their potential. In this regard, the need for diversification was initially expressed at the level of micro-enterprises, firms and companies.

It was from this period that the economic content and essence of diversification, the goals and directions of which began to be studied in the economic literature. However, no single theory of diversification processes has been developed at this time, and scholars have used this category in different directions and in different contexts. In general, diversification is applied at a more micro level, and the expansion of enterprises and firms is understood to mean an increase in the range of goods and services.

Any business will thrive through diversification of production and product types. This requires a well-chosen production strategy in the management of the enterprise. At the same time, diversification can serve a number of purposes. The first is the formation of subsidiaries and the establishment of a network of branches in order to maximize the coverage of the existing market. The


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second is to connect with a wide network of suppliers and consumers who can compensate for each other in the event of a temporary or complete termination of the partnership. This is because diversification of exports requires the company to use all its capabilities to ensure a continuous process.

To measure export diversification, the share of exports in large trade partnerships is a common indicator. If we look at the export share of the ten markets, there has been a significant change in diversification from 1970 to the present. Until 1970, the share of ten countries was 90%, but since then it has gradually decreased and in 2010 it reached 60%. The main reason for this was the expansion of new markets over time. By 1990, the U.S. and Japan formed two major markets. The two countries accounted for more than 50 percent of total exports. This situation has been changing rapidly since the early 1990s due to exports to China. Since the early 2000s, China has been the largest market for Korean manufacturers.

In particular, if we look at the current exports in the country, in January-December 2021, the number of exporters in the country amounted to 6,547, which amounted to 12,500.8 million. Exports of goods and services in US dollars (excluding gold) (increased by 34.4% compared to the corresponding period of 2020) were provided.

At the end of January-December 2021, the main export partners were the People's Republic of China, the Russian Federation, Turkey, Kazakhstan, Kyrgyzstan, Afghanistan and Tajikistan. The share of these seven major countries in total exports amounted to 56.5%.



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| *Countries* | *Mln. US dollar* | | *Growth rate in %* | | *Rank* | |
|---|---|---|---|---|---|---|
| | *2020- y.* | *2021- y.* | *2020- y.* | *2021- y.* | *2020- y.* | *2021- y.* |
| China | 1 937,1 | 2 518,8 | 76,6 | 130,0 | 1 | 1 |
| Russian Federation | 1 485,8 | 2 058,9 | 58,7 | 138,6 | 2 | 2 |
| Turkey | 1 019,0 | 1 690,1 | 83,7 | 165,9 | 3 | 3 |
| Kazakhstan | 908,4 | 1 172,1 | 65,2 | 129,0 | 4 | 4 |
| Kyrgyz Republic | 760,5 | 791,1 | 113,6 | 104,0 | 6 | 5 |
| Afghanistan | 776,7 | 649,4 | 125,9 | 83,6 | 5 | 6 |
| Tajikistan | 405,1 | 500,9 | 123,7 | 123,6 | 7 | 7 |
| Canada | 142,3 | 199,8 | 21,9 m. | 140,4 | 8 | 9 |
| Ukraine | 123,9 | 231,6 | 103,7 | 187,0 | 11 | 8 |
| Turkmenistan | 126,1 | 191,3 | 87,3 | 151,7 | 10 | 10 |
| Iran | 141,8 | 176,8 | 64,5 | 124,7 | 9 | 11 |
| Pakistan | 98,6 | 130,0 | 100,6 | 131,9 | 13 | 12 |
| Singapore | 58,0 | 102,3 | 169,4 | 176,5 | 16 | 13 |
| Poland | 57,4 | 87,9 | 138,4 | 153,2 | 17 | 14 |
| Netherlands | 24,8 | 67,9 | 126,2 | 2,7 m. | 26 | 18 |
| Azerbaijan | 54,2 | 75,9 | 104,0 | 139,9 | 18 | 15 |
| United Kingdom | 34,2 | 75,5 | 32,4 | 2,2 m. | 23 | 16 |
| Lithuania | 36,2 | 65,4 | 143,3 | 180,7 | 22 | 19 |
| Germany | 67,6 | 70,4 | 108,6 | 104,1 | 15 | 17 |
| USA | 28,5 | 59,3 | 77,8 | 2,1 m. | 25 | 20 |



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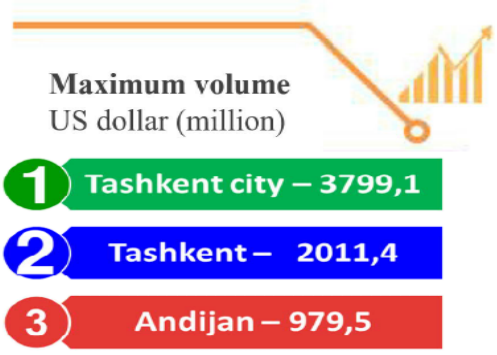
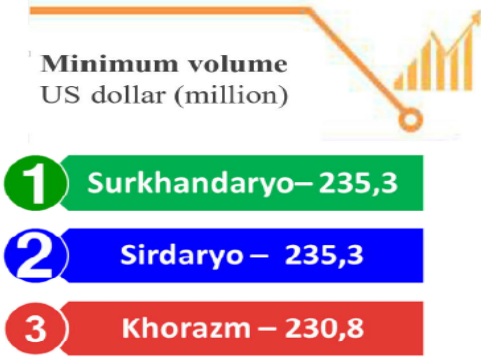
And if we take these shares in the regions of our country:

The city of Tashkent has the highest share in the country's exports with a share of 22.9% to 3,799.1 million. The lowest share was in Khorezm region with a share of 1.4% to 230.8 million US dollars. USD.

The highest growth rates of exports compared to the same period in 2020 were in Andijan (167.7%), Samarkand (158.3%), Jizzakh (158.3%), Fergana (144.0%) and Kashkadarya regions. (138.4%) were recorded. We can see that the lowest growth rate was in Surkhandarya region (110.2%).

|  | **US Dollar (million)** | **Growth rate** |
|---|---|---|
| **The Republic of Uzbekistan** | **16610,6** | **110,0** |
| Republic of Karakalpakstan | 418,6 | 115,4 |
| Regions: | | |
| Andijon | 979,5 | 167,7 |
| Bukhoro | 311,3 | 134,7 |
| Jizzakh | 196,5 | 158,3 |
| Kashkadaryo | 270,5 | 138,4 |
| Navai | 508,5 | 119,2 |
| Namangan | 494,6 | 130,0 |
| Samarkand | 530,6 | 158,3 |
| Surkhandaryo | 235,3 | 110,2 |
| Sirdaryo | 235,3 | 130,9 |
| Tashkent | 2011,4 | 112,6 |
| Fergana | 800,7 | 144,0 |
| Khorazm | 230,8 | 136,1 |
| Tashkent city. | 3799,1 | 130,0 |





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The forms, scope and methods of diversification, especially in 2005-2009, became widespread and became a general, investment concept of development. Therefore, the First President of the Republic Islam Karimov said that one of the most important priorities in overcoming the consequences of the global financial and economic crisis in Uzbekistan is to continue to diversify production and combine it with modernization, technical and technological renewal. they repeatedly emphasized.

Thus, diversification is not a pre-determined goal, but a mandatory measure that occurs as a result of an objective process. Summarizing the above definitions, we have defined the diversification of industrial production as follows: diversification of industrial production is to reduce dependence on the production of any product, to ensure the rational allocation of capital resources, to create new jobs, is a set of measures aimed at expanding the scale of industrial production in order to capture new markets and strengthen its position in traditional markets to achieve scale and synergistic efficiency.

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# AN ILL-POSED PROBLEM FOR AN ABSTRACT BICALORIC EQUATION.

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Abstract: *In article the incorrect task for abstract bicaloric the equation is studied and a stability assessment according to Tikhonov is given.*

***Keywords****: bicaloric, spaces, self-conjugate, linear, unlimited,*

*dense,operator, theorems.*

A task. It is required to find a solution to the abstract bicaloric equation

$$K_+^2 u(t) \equiv \left( \frac{d}{dt} + A \right)^2 u(t) = 0,\ 0 < t < T, \quad (1)$$

satisfying the following conditions:

$$\left. \begin{array}{l} u\big|_{t=l_1} = u(l_1) \\ u\big|_{t=l_2} = u(l_2) \end{array} \right\} \quad (2)$$

where $u(t)$ - abstract function with values in Hilbert space $H$.

$A$ - constant, positive-definite, self-adjoint, linear, unbounded with everywhere dense domain $D(A^2)$ $(DCH)$ operator operating from $H$ in $H$, and $u(l_1), u(l_2) \in H$.

The validity of the representation is proved.

$$u = u_1 + (t - l_1)u_2 .$$

Theorem. If a $u_1$ and $u_2$ are solutions of the caloric equation, then the function $u = u_1 + (t - l_1)u_2$ is a solution to equation (1) and vice versa, for each given abstract bicaloric function there are such functions $u_1$ and $u_2$ what

$$u = u_1 + (t - l_1)u_2$$



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Proof. 1) If $u_1$ and $u_2$ solution of the caloric equation, that is, the solution of the bicaloric equation

$$K_+u = K_+\left[u_1 + (t-1_1)u_2\right] = K_+u_1 + u_2 + (t-1_1)\frac{du_2}{dt} + A(t-1_1)u_2 =$$

$$= u_2 + (t-1_1)\left(\frac{du_2}{dt} + Au_2\right) = u_2 + (t-1_1)\cdot K_+u_2 = u_2.$$

Because

$$\frac{du_2}{dt} + Au_2 = 0, \quad \text{то} \quad K_+\left(u_1 + (t-1_1)u_2\right) = u_2 \quad \text{т-е} \quad K_+u = u_2.$$

Applying again the operator $K_+$, given that $K_+u_2 = K_+K_+u = 0;$

2) If $u$ solution of the bicaloric equation, then there are such caloric functions $u_1$ , $u_2$ what $u = u_1 + (t-l_1)u_2$.

To prove this assertion, it suffices to establish the possibility of choice $u_2$.

Let's put

$$u_2 = K_+u,$$

$$u_1 = u - (t-l_1)u_2.$$

It remains to show that

$$K_+\left[u - (t-l_1)u_2\right] = 0.$$

Indeed:

$$K_+u_1 = K_+\left[u - (t-l_1)u_2\right] = K_+u - K_+(t-l_1)u_2 =$$

$$= K_+u - u_2 - (t-l_1)\cdot\frac{du_2}{dt} - A\cdot(t-l_1)u_2 =$$

$$= K_+u - u_2 - (t-l_1)\cdot\left(\frac{du_2}{dt} - Au_2\right) = K_+u - u_2 = 0,$$

from here



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$K_+u_1 = 0, \;\; K_+u_2 = 0$.

The theorem is completely proven.

With the help of a view

$$u = u_1 + (t - l_1)u_2 \qquad (3)$$

The solution of problem (1) - (2) can be reduced to solving the following problems:

$$\begin{cases} K_+u_1 = 0, & (4) \\ u_1|_{t=l_1} = u(l_1) & (5) \end{cases}$$

and

$$\begin{cases} K_+u_2 = 0, & (6) \\ u_2|_{t=l_2} = u_2(l_2) & (7) \end{cases}$$

where $u_2(l_2) = \dfrac{u(l_1)}{l_2 - l_1} - \dfrac{u_1(l_2)}{l_2 - l_1}, \qquad u_1(l_2) = \|u(0)\|^{\frac{l_1 - l_2}{l_1}} \|u(l_1)\|^{\frac{l_2}{l_1}}$

a task (4) – (5) $0 < t < l_1$ incorrect in the classical sense, $a \;\; l_1 < t < T$ correctly. Problem (4) - (5) will be investigated for conditional correctness according to Tikhonov

Theorem. For any solution of problem (4) - (5), the inequality is true.

$$\|u_1(t)\| \le \|u(0)\| \frac{l_1 - t}{l_1} \cdot \|u(l_1)\|^{\frac{t}{l_1}}.$$

Proof. Consider the function [1]

$$\varphi(t) = \|u_1(t)\|^2 = (u_1, u_2).$$

Differentiating it, we get

$$\varphi'(t) = 2(u_1', u_1) = 2(Au_1, u_1)$$

$$\varphi''(t) = 2(u_1', u_1) + 2(u_1, u_1'') = 2(Au_1, Au_1) + 2(u_1, A^2 u_1).$$


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Since the operator is self-adjoint $\left(m.e.A=A^*\right)$, то $\left(u_1,A^2u_1\right)=\left(Au_1,Au_1\right)$ and that means, $\varphi''(t)=4\left(Au_1,Au_1\right)$.

Now consider the function

$$\psi(t)=ln\varphi(t)$$

Differentiating it, we have

$$\psi''(t)=\frac{1}{\varphi^2(t)}\left[\varphi''(t)\cdot\varphi'^2(t)\right]=\frac{4}{\varphi^2(t)}\left[\left(Au_1,Au_1\right)\left(u_1,u_1\right)-\left(Au_1,u_1\right)^2\right]\geq 0 \qquad (8)$$

By virtue of the well-known Bunyakovskii inequality, inequality (8) means that the function $\psi(t)$ turned concave upwards, from which it follows that the function $\psi(t)$ on the segment $[0,l_1]$ does not exceed a linear function that takes the same values at the ends of the segment as $\psi(t)$. From (8) it follows

$$\psi(t)\leq\frac{l_1-t}{l_1}\psi(0)+\frac{t}{l_1}\psi(l_1) \qquad (9)$$

Potentiating inequality (9), we obtain

$$\varphi(t)\leq\left[\varphi(0)\right]^{\frac{l_1-t}{l_1}}\cdot\left[\varphi(l_1)\right]^{\frac{t}{l_1}},$$

Where $\left\|u_1(t)\right\|\leq\left\|u(0)\right\|^{\frac{l_1-t}{l_1}}\cdot\left\|u(l_1)\right\|^{\frac{t}{l_1}}$

A task (6) – (7) $0<t<l_2$ incorrectly, $a \quad l_2<t<T$ correct in the classical sense, similarly to problem (4) - (5) it can be examined for conditional correctness according to Tikhonov

Let us prove a theorem characterizing the stability estimate for the solution of the problem

(1) – (2)

Theorem. For any solution of problem (1) – (2), the inequality


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$$\|u(t)\|_H \le \|u(0)\|^{\frac{l_1-t}{l_1}} \|u(l_1)\|^{\frac{t}{l_1}} +$$

$$+(t-l_1)\begin{cases} \dfrac{1}{l_2-l_1}\left(\|u(l_2)\|+\|u(0)\|^{\frac{l_1-l_2}{l_1}}\|u(l_1)\|^{\frac{l_2}{l_1}}\right)^{\frac{t}{l_2}} \cdot \|u(l_1)\|^{\frac{t-l_1}{l_1}}, & l_1 < t < l_2 \\ \dfrac{1}{T-l_1}\left(\|u(T)\|+\|u(0)\|^{\frac{l_1-T}{l_1}}\|u(l_1)\|^{\frac{T}{l_1}}\right)^{\frac{T-t}{T}} \cdot \|u(l_2)\|^{\frac{t}{l_2}}, & l_2 \le t \le T \end{cases} \quad (10)$$

Note that inequality (10) implies the uniqueness of the solution to problem (1)–(2) and the conditional well-posedness of this problem in the class

$$\{u : \|u(0)\| \le M\}$$

This theorem is proved by the logarithmic convexity method

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# History of English Language

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***Abstract**: English is a West Germanic language that originated from Anglo-Frisian languages brought to Britain in the mid 5th to 7th centuries AD by Anglo-Saxon migrants from what is now northwest Germany, southern Denmark and the Netherlands. The Anglo-Saxons settled in the British Isles from the mid-5th century and came to dominate the bulk of southern Great Britain. Their language originated as a group of Anglo-Frisian languages which were spoken by the settlers in England and southern and eastern Scotland in the early Middle Ages, displacing the Celtic languages (and, possibly, British Latin) that had previously been dominant. Old English reflected the varied origins of the Anglo-Saxon kingdoms established in different parts of Britain. The Late West Saxon dialect eventually became dominant. A significant subsequent influence on the shaping of Old English came from contact with the North Germanic languages spoken by the Scandinavian Vikings who conquered and colonized parts of Britain during the 8th and 9th centuries, which led to much lexical borrowing and grammatical simplification. The Anglian dialects had a greater influence on Middle English.*

***Keywords:** lexical borrowing, Celtic languages, upper classes.*

After the Norman conquest in 1066, Old English was replaced, for a time, by Anglo-Norman (also known as Anglo-Norman French) as the language of the upper classes. This is regarded as marking the end of the Old English or Anglo-Saxon era, as during this period the English language was heavily influenced by Anglo-Norman, developing into a phase known now as Middle English. The conquering Normans spoke a Romance langue d'oïl called Old Norman, which in Britain developed into Anglo-Norman. Many Norman and French loanwords entered the local language in this period, especially in vocabulary related to the church, the court system and the government. As Normans are descendants of Vikings who invaded France, Norman French was influenced by Old Norse, and many Norse loanwords in English came directly from French. Middle English was spoken to the late 15th century. The system of orthography that was established during the Middle English period is largely still in use today. Later changes in pronunciation, however, combined with the adoption of various foreign spellings, mean that the spelling of modern English words appears highly irregular.

Early Modern English – the language used by William Shakespeare – is dated from around 1500. It incorporated many Renaissance-era loans from Latin and Ancient Greek, as well as borrowings from other European languages, including French, German and Dutch. Significant pronunciation changes in this period included the ongoing Great Vowel Shift, which affected the qualities of most long vowels. Modern English proper, similar in most respects to that spoken today, was in place by the late 17th century.


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English as we know it today came to be exported to other parts of the world through British colonisation, and is now the dominant language in Britain and Ireland, the United States and Canada, Australia, New Zealand and many smaller former colonies, as well as being widely spoken in India, parts of Africa, and elsewhere. Partially due to influence of the United States and its globalized efforts of commerce and technology, English took on the status of a global lingua franca in the second half of the 20th century. This is especially true in Europe, where English has largely taken over the former roles of French and (much earlier) Latin as a common language used to conduct business and diplomacy, share scientific and technological information, and otherwise communicate across national boundaries. The efforts of English-speaking Christian missionaries have resulted in English becoming a second language for many other groups.

Global variation among different English dialects and accents remains significant today. Scots, a form of English traditionally spoken in parts of Scotland and the north of Ireland, is sometimes treated as a separate language.

The Germanic settlers in the British Isles initially spoke a number of different dialects, which would develop into a language that came to be called Anglo-Saxon. It displaced the indigenous Brittonic Celtic (and the Latin of the former Roman rulers) in parts of the areas of Britain that later formed the Kingdom of England, while Celtic languages remained in most of Scotland, Wales and Cornwall, and many compound Celtic-Germanic place names survive, hinting at early language mixing. Old English continued to exhibit local variation, the remnants of which continue to be found in dialects of Modern English. The four main dialects were Mercian, Northumbrian, Kentish and West Saxon; the last of these formed the basis for the literary standard of the later Old English period, although the dominant forms of Middle and Modern English would develop mainly from Mercian.

Old English was first written using a runic script called the futhorc, but this was replaced by a version of the Latin alphabet introduced by Irish missionaries in the 8th century. Most literary output was in either the Early West Saxon of Alfred the Great's time, or the Late West Saxon (regarded as the "classical" form of Old English) of the Winchester school inspired by Bishop Æthelwold of Winchester and followed by such writers as the prolific Ælfric of Eynsham ("the Grammarian"). The most famous surviving work from the Old English period is the epic poem Beowulf, composed by an unknown poet.

The introduction of Christianity from around the year 600 encouraged the addition of over 400 Latin loan words into Old English, such as the predecessors of the modern priest, paper, and school, and a smaller number of Greek loan words. The speech of eastern and northern parts of England was also subject to strong Old Norse influence due to Scandinavian rule and settlement beginning in the 9th century (see below).

Most native English speakers today find Old English unintelligible, even though about half of the most commonly used words in Modern English have Old English roots. The grammar of Old English was much more inflected than modern English, combined with freer word order, and was


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grammatically quite similar in some respects to modern German. The language had demonstrative pronouns (equivalent to this and that) but did not have the definite article the. The Old English period is considered to have evolved into the Middle English period some time after the Norman conquest of 1066, when the language came to be influenced significantly by the new ruling class's language, Old Norman.

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# THE IMPACT OF DIGITAL TRANSFORMATION ON THE SOCIO-ECONOMIC DEVELOPMENT OF THE REGION

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***Annotation:*** *Digitalization is one of the key trends in the global economy. The countries with the strongest economies in the world have included a digitalization program in their economic development strategy. At the same time, the importance of monitoring the dynamics of digitalization processes and the degree of its impact on well-being is of paramount importance for all countries involved in the global community. At present, there are practically no studies that comprehensively assess the institutional, cultural, economic, educational and infrastructural consequences of digitalization. The paper attempts to assess the impact of digitalization on these drivers of socio-economic development and on welfare in a group of developed and developing countries. The relevance of determining the effects of the rapid introduction of digitalization in developed and developing countries predetermined the purpose of the study.*

***Keywords:*** *digitalization of the economy, digital evolution index, e-government development index, level of digital trust, digital literacy, developed countries, developing countries*

## INTRODUCTION

*The digitalization of the world economy has entered an active phase of implementation at the country level over the past 10–15 years. One of the practice-oriented illustrations is the active implementation of the concepts of the "third industrial revolution", "Industry 4.0" and other approaches to integration into government programs and business strategies. Thus, the effects of the dynamics of the introduction of digitalization and its impact on socio-economic results and the welfare of society become a priority for all regions involved in global sustainable development.*

## MATERIALS AND METHODS

*Having reached only 50% coverage of the world market with the Internet, the global digital economy has become a space of great opportunities [1]. Today, integration into the digital world predetermines the success of both business and consumer transactions. According to McKinsey's research, digital data currently have a greater impact on GDP growth than traditional trade in goods and services [2]. Indeed, many countries have identified key priorities in their development strategy based on methods to increase competitiveness through achieving a digital advantage in the global marketplace. It is obvious that the openness of the digital market predetermines new rules of the game for all stakeholders of the global world, which is why innovation and trust play a decisive role in the digital development of the economy. Over the past 15 years, many works have been published on the assessment of the effects of digitalization in individual projects of states or industries, for example, the introduction of the Internet of things in healthcare, the introduction of smart city systems in a group of countries. However, there are practically no studies that comprehensively assess the institutional, cultural, economic, educational and infrastructural consequences of digitalization.*

## RESULTS AND DISCUSSION



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The first part of the article formalizes modern approaches to the evolution of digitalization of the world economy. The objects and factors of influence of the digital economy identified in the second part of the article became the basis for analyzing the introduction of digitalization in groups of developed and developing countries. The third part assesses the socio-economic effects and contribution of digitalization to the sustainable development of the global economy. The methodological tools are the construction of a balanced panel regression, as well as tests to verify the reliability of the data.

The history of the development of digitalization is heterogeneous, its formation depends on the level of integration of innovations in groups of countries. Researchers at the Columbia Business Institute distinguish three stages of digital evolution.

In turn, based on the results of a large-scale study, the Boston Consulting Group formalized the digital evolution in the world in terms of the availability of using the applied features of the Internet (Fig. 1).

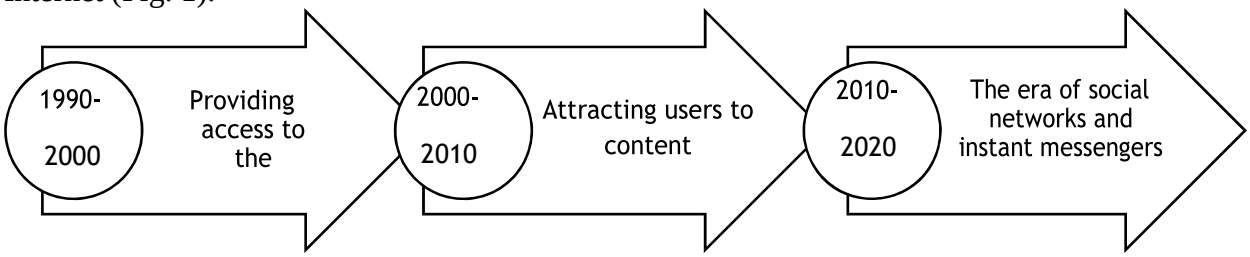


*Fig.1. Stages of digital evolution in the world*

In accordance with the proposed logic, the development of society is on the verge of the fourth digital evolution, which is based on connecting not only people, but also mechanisms, complex devices to the Internet, as well as the integration of business processes with artificial intelligence.

Despite the tight integration into the life of modern society, the theoretical foundations of the digital economy are still rather poorly formalized in academic research and interstate documentation.

Currently, there are several approaches to the essence of the digital economy in the scientific literature. The so-called "classical approach" says that the digital economy is an economy based on digital technologies, and at the same time it is more correct to characterize only the area of electronic goods and services [5]. "Digital Economy

is an economy based on new methods of generating, processing, storing and transmitting data, as well as digital computer technologies" [5]. The "extended approach" defines the relationship between the digital economy and digitalization; in this aspect, the "digital economy" is economic production using digital technologies [5]. The digital economy is an economy based on a qualitatively new type of information and telecommunication technologies, covering and transforming all spheres of modern industrial and social life [5]. At the same time, there is an alternative approach that considers digitalization as a system of interaction between people and technologies. So V. I. Bondarenko notes that "this is a holistic, systemic, complex problem of finding that model of relations between people that is compatible with the technologies of the fourth industrial revolution and, in its formation, development and implementation, should ensure the achievement of an objectively specified goals" [5]. "Digitalization— the path due to which aspects of human life are subject to


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change and adaptation in accordance with digital communication devices and media infrastructure [5]. "Digitalization is the use of digital technologies to change the business model and create an environment for the production of products with increased value for the consumer and the company [6].

Large international organizations have also made their contribution to understanding the functioning and clarifying the framework boundaries of the digital economy. Digital Economy— an economy that allows the functioning and provision of trade in goods and services via the Internet (Organization for Economic Cooperation and Development, 2013). The digital economy is interconnected platforms that allow using a huge number of ways to reach the end user, as well as creating difficulties in excluding certain players (competitors). Digital economy - economic activities based on the use of digital knowledge for the production of modern information, using information as a driver of productivity growth and economic structural optimization (G20, "Program for Development and Cooperation in the Digital Economy", 2016). The digital economy is an economic activity in which digital data, processing large volumes and using the results of analysis to improve production efficiency are a key factor in production.

Based on the study of Uzbek and foreign literature, we have identified four key approaches to defining the phenomenon of digitalization (Table 1).

Only through a comprehensive transformation can a greater effect be achieved, deeper and more comprehensive involvement in the digitalization process of all major economic agents. The objects of influence of digitalization can also be conditionally divided into four levels. The first level is software and hardware, telecommunications [8].

*Table 1*

**Approaches to defining the digital economy**

| Approach | Definition of Approach |
|---|---|
| Resource approach | The resource approach is based on the technological aspect, namely, on the technologies necessary to ensure the functioning of the digital economy |
| Process Approach | An approach based on the need to use information technology to ensure transactions on the Internet |
| Structural approach | Economic transformation based on the introduction of new information structures for the digitalization of the economy |
| Business Model Approach | An approach at the intersection of structural and procedural approaches, based on the introduction and application of new business models, mainly this is trading on the Internet and or online business |

The second level is digital services and the platform economy (transactional platforms - Amazon, Uber, Alibaba, Airbnb, innovative platforms - Windows, Android, Salesforce) [9]. The third level includes the business areas of the sharing economy and gignomics. At the fourth level, there are digital integrated business areas - Industry 4.0 sectors, as well as the economy of streaming data processing algorithms.


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Thus, we can conclude that the influence of the digital economy has gone far beyond the sphere of traditional technological industries, and, therefore, hypothetically, the digital economy can affect almost all spheres of society, depending on the degree of its development in a certain country of the world [11].

## CONCLUSION

The results of the study for a group of developing countries show that the e-government development index is a significant factor. As part of the digitalization development strategy, the following measures are required to improve well-being:

— creating the necessary institutional conditions for business;

— investing in the development and provision of information technologies for various industries that may be subject to digitalization;

— initiating educational programs to improve the digital literacy of the population.

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# CLUSTERS OF WORLD COUNTRIES AND FUTURE FUTURE OF CLUSTERS IN UZBEKISTAN

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***Annotation:*** *In this article, the organization and implementation of cotton-textile clusters are fully supported by the state. The organization and effective operation of clusters in the cotton and textile sector has become one of the innovative mechanisms for the development of the textile industry, and therefore this activity is supported. Clustering optimizes the activities of enterprises and farms of the textile industry and describes the future prospects of clusters in the world and clusters in Uzbekistan.*

***Keywords:*** *cotton, textile, cluster, product, export, prospect, investment, textile industry.*

## 1. Introduction.

The organizations within the clusters in the cotton and textile sector will be integrated in the process of creating the final product and will have a strong relationship with each other. In this activity, they complement each other and support each other as needed. Their goal is to produce more final and better quality products and deliver them to consumers. Clusters in the cotton and textile sector can be large in size and can be organized at the district or regional level.

Based on world experience, Uzbekistan began with the introduction of clusters in the agricultural economy, aimed at reducing the country's dependence on imports, developing the economy through the production of import-substituting products, diversification and localization and increasing the country's export potential. In his address to the Oliy Majlis, President Mirziyoyev said: "... the purpose of agricultural reforms is to increase the welfare of the people, along with economic benefits. We must never forget that. " they pointed out.

In the future, the cotton and textile industry in our country should develop rapidly and strive to fully meet the growing needs. One of the ways to increase the volume of textile production and increase export potential in the system of sustainable and innovative development of the cotton and textile industry of the country, to ensure their competitiveness in domestic and foreign markets is to develop the industry on a cluster approach.

Today, about 50 percent of the economies of the world's advanced nations have switched to the cluster method. For example, there are more than 2,000 clusters in the European Union, which cover 38% of the workforce. The full cluster method has been applied in industry in Denmark, Finland, Norway and Sweden. In the United States, more than half of the country's existing enterprises operate in this system, and their products account for 60 percent of GDP.

**2. Literature review.** The term cluster has been widely studied by many economists and experts and their terms have been defined. The term cluster is derived from English and means "group".

The term cluster was first used by Michael Eugene Porter (2003), an American economist and professor at Harvard School who specializes in the study of competitive opportunities.


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He described the cluster as an association of enterprises and organizations that are geographically adjacent, interconnected, operating in a specific area, and complementing each other's work. In his view, clusters should have the following commonalities;

- availability of research institutions;
- work resources;
- competitiveness;
- affiliation;
- availability of special educational institutions;
- availability of access to special services;
- Adequacy of raw material suppliers.

In economic terms, a cluster is a group of interconnected organizations (enterprises, companies, firms, universities, etc.) united into separate regions (Wikipedia, 2019).

Head of VST Cluster LLC, established in Romitan district of Bukhara region, i.f.d. prof. M. Rakhmatov and academician B. According to Zaripov (2018), a cluster is a group of geographically close interconnected enterprises that aims to increase competitiveness, create more value added and sell in the market as a result of the stabilization of socio-economic relations between them.

Manukyan (2016) considers the cluster as a structural group of enterprises, firms and organizations that have a single coordination center, implement business projects together, as well as effectively use the company's resources for a single purpose.

Larionova (2007) tries to explain the essence of the cluster in more detail: "A cluster is a set of interconnected economic entities of different industries, interconnected, united in a single organizational structure that works together for a specific purpose. Such relations should bring additional benefits to each of the business entities, provide a certain incentive to form a single system, to ensure an integrated system.

The purpose of establishing clusters is to complex production, the production of finished products with high added value based on the integration of infrastructure (education, consulting, certification, etc.) and other services in a single technological chain. It should be borne in mind that the technological chain from the preparation of raw materials to the production of finished products must be under a single management.

Leading economists of the country BA Akramov, B.Berkinov, F.Nazarova, KANasirova conducted research on the problems of the agricultural sector, including the theoretical foundations of management of agricultural enterprises and the improvement of business management in agriculture.

Today, textile enterprises play an important role in the production process in the Republic. One of the most pressing issues is to ensure the quality of products produced by textile enterprises in accordance with international standards of cotton fiber, yarn, dyed yarn, yarn, knitted fabrics, silk raw materials

The demand for textile products in our country is very high, and in order to meet these needs, joint ventures with developed countries in the textile industry are being opened on a contractual basis (Decree 2017).

- Resolution of the President of the Republic of Uzbekistan dated September 16, 2019 No PP-4453 "On measures to further develop the light industry and stimulate the production of finished products" (Resolution, 2019)


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- Resolution No. PP-253 of March 31, 2018 "On additional measures to organize the activities of cotton and textile industries and clusters" (Resolution, 2018)
- Information on the enterprises of the Association "Uztextile Industry". 2020.
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**3. Analysis and discussion of results.**

The Republic of Uzbekistan is taking comprehensive measures to organize the production of a wide range of quality textiles and garments, deepen the localization of its production, as well as increase the export potential of local producers.

The purpose of forming clusters is city, district and
Orientation of enterprises of the same industry located in the region and the creation of competitive goods on the basis of the organization of innovative production - the combination of educational, scientific, engineering, consulting, standardization, certification and other services with them in a single technological chain consists of.

Therefore, in recent years, a number of countries have built and are building effective “cluster strategies”. Governments are focusing on supporting existing clusters and creating new networks of companies with which they have not previously communicated, and are becoming participants in the networks. Cluster strategies are widely used in Europe. Figure 1 below shows the clusters of countries in the world.

Clusters of countries of the world

| N | Countries | Clusters |
|---|---|---|
| 1 | Germany | Bio Regio Biotechnology Cluster |
| 2 | Norwey | In the "Maritime Economy" cluster |
| 3 | Finland | Forest cluster, which includes the production of wood and wood products, paper, furniture, printing and related equipment |
| 4 | France | "Food", "Cosmetics" clusters |

Figure 1. Cluster of countries of the world

This picture shows that the Bio Regio Biotechnology Cluster program has been operating in Germany since 1995. In the UK, the government has identified Edinburgh, Oxford and the environs of eastern England as key areas where biotechnology firms are located. In Norway, the state encourages cooperation between companies in the “maritime economy” cluster. In Finland, a forest cluster has been developed, which includes the production of wood and wood products, paper, furniture, printing and related equipment.


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Of the countries in the world, Finland and Scandinavia, more than half of the enterprises in the United States operate according to this production model - cluster enterprises are located in one region and use natural, human resources and integration potential.

The main industrial clusters of Germany (chemistry, engineering) and France (food, cosmetics) were formed in the 50s and 60s of the last century. As a result, the interaction of all industry groups within clusters has accelerated the spread of advanced technologies in the national economy, which has contributed to the growth of employment, investment. Based on the main directions of the regional economy in improving the efficiency of the organization and operation of cluster structures in the regions of the Republic of Uzbekistan, the volume of industrial production in the textile industry in 2020 by region is studied as follows (Table 1).

**Table 1**

In the textile industry, the volume of industrial production in 2020 by regions

| Regions | 2020 y | 100 % |
|---|---|---|
| 1. The Republic of Karakalpakistan | 212,4 | 1,6 |
| 2. Andijan | 1712,4 | 12,9 |
| 3. Buhkara | 2044,2 | 15,4 |
| 4. Jizzakh | 292,0 | 2,2 |
| 5. Navai | 26,5 | 0,2 |
| 6. Namangan | 969,0 | 7,3 |
| 7. Samarkand | 464,6 | 3,5 |
| 8. Syrdarya | 292,0 | 2,2 |
| 9. Surkhandarya | 199,1 | 1,5 |
| 10. Tashkent | 1805,3 | 13,6 |
| 11. Ferghana | 2774,3 | 20,9 |
| 12. Kashkadarya | 159,3 | 1,2 |
| 13. Khorezm | 37,7 | 2,8 |
| 14. Tashkent city | 1951,3 | 14,7 |
| **Overall** | **13274,1** | **100** |

Based on the data on the volume and weight of textile production in the regions, Fergana, Bukhara, Tashkent, Andijan regions and the city of Tashkent have the largest share in the production of textiles. It is based on the fact that the establishment of cotton-textile clusters is one of the factors ensuring the economic development of the regions.

In the Republic of Uzbekistan, the same system is now well developed. During his visit to Bukhara in 2017 on the initiative of President Sh.M.Mirziyoev, he touched upon this issue. At the meeting, the head of state said about the cluster system that "... our textile enterprises have stood on their feet, and these enterprises can now operate as a solid source in the cotton industry."

In particular, it is noteworthy that since the introduction of the cluster system to date, the yield of cotton has increased 1.2 times compared to previous years and the yield by 5-6 quintals.


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For example, Kokcha Textil LLC, which operates in Orta Chirchik district, has an annual production capacity of 6,500 tons of yarn worth 140 billion soums. 1,050 new jobs were created due to the launch of a new project worth UZS 1 billion

**Textile industry of Uzbekistan in 2019-2021 development.**

Figure-2 . Growth of the textile industry of Uzbekistan in 2016-2021

| The country's Industrial development in the output share | 2016 | | 2020 | | 2021 |
|---|---|---|---|---|---|
| Industrial income | Internal market | export | 4. billion $ | | 5,9 billion $ |
| | 39,6% | 60,4% | | | |
| | 1,5 billion $ | | | | |
| Total income | % | million $ | % | million $ | |
| | 51,8 | 770,9 | 38,2 | 1608 | |
| Yarn product | 16,5 | 246,1 | 19,5 | 830,8 | |
| Fabric, knitted goods | 31,7 | 471,9 | 42,3 | 1780 | |
| Increase in jobs in the industry | 100 thousand people | | 315 thousand people | | |
| Growth of payments to budget to the enterprises in the sector | 309 billion soums | | 1227 billion soums | | 1621 billion soums |
| Cotton textile clusters | 0 | | 87 | | 97 |

From the data of Figure 2, it can be seen that by 2021 in our country there has been a sharp rise in the textile industry. The country's share in industrial production will be 7.5% in 2016, 14.7% in 2021, and total revenues will be 51.8% in 2016. In 2020, it was 38.2%.

Production of gauze, knitted goods, socks increased by 16.5% in 2016, 19.8% in 2020, sewing and knitted products by 31.75% in 2016. In 2020, it increased by 42.3%. The number of jobs in the industry will reach 315,000 in 2020. By 2021, it had reached 336,000.

**4. Conclusions and suggestions.**

We have focused only on some figures related to cluster activity. The example of the introduction of the cluster system shows that there are still many problems in the industry, and extensive work is being done to address them. As long as there is work, problems are natural.

In short, the cluster system covers not only agriculture, but also industry and services. Keeping pace with the times has always been a guarantee of success and results in all areas. That is, clusters put an end to dependency and encourage free and productive labor. In 2020, a total of 96 cotton and textile production and clusters are operating in the country. Cotton-textile production and clusters use


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modern methods of cotton picking, including picking on cotton picking machines manufactured in the USA (John Deere), Germany (Case), China and other countries

**We would like to make some suggestions on cluster activities.**

1. Increase of cotton yield with the involvement of advanced modern innovative technologies in the period of cotton-textile production and clusters of raw cotton;
2. Organize clusters and create an open database that provides information related to their overall activities;
3. It would be expedient to establish a cluster system not only in agriculture, but also in industry and services, ie in the production of wood and wood products, paper, furniture, printing, cosmetics.

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