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DIGITAL ECONOMY: WORLD EXPERIENCE

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Abstract: The article discusses the role and place of the digital economy in the quality of life of the population, as well as the world experience in the development of the digital economy.

***Keywords*:** digital economy, economic growth, sustainable development, information and communication system (ICT), artificial intelligence.

INTRODUCTION.

The digital economy significantly changes traditional business processes. When the most difficult levels of digitalization in the economy are reached, a radical transformation of the production relations of participants takes place, the result of which is the unification of production and services into a single digital (cyber-physical) system, in which:

- all elements of the economic system are present simultaneously in the form of physical objects, products and processes, as well as their digital copies (mathematical models);
- all physical objects, products and processes due to the presence of a digital copy and an element of connectivity (connectivity) become part of an integrated IT system;
- through the presence of digital copies (mathematical models) and being part of a single system, all elements of the economic system continuously interact with each other in near real time, simulate real processes and predictable states, and ensure constant optimization of the entire system. The main segments of the digital economy [1]:

ICT is among the key innovative components of the modern world. They represent a new technological paradigm that belongs to the type of General Purpose Technologies (GPT) that are widely used and adapted to different sectors of the economy. There are two main characteristics of GPT: generality of application and innovative complementarity.

According to the Digital Economy Report, global Internet Protocol (IP) traffic, which provides a rough indication of the scale of data flows, has grown from about 100 gigabytes (GB) per second per day in 1992 to 100 gigabytes (GB) per second per day. up to 46,000 GB/s in 2017 And this despite the fact that the economy based on data is only at the initial stage of development. According to forecasts, by 2022. the volume of global IP traffic will reach 150,700 GB/s as a result of the emergence of an increasing number of new users on the Internet and the expansion of the Internet of Things [2].

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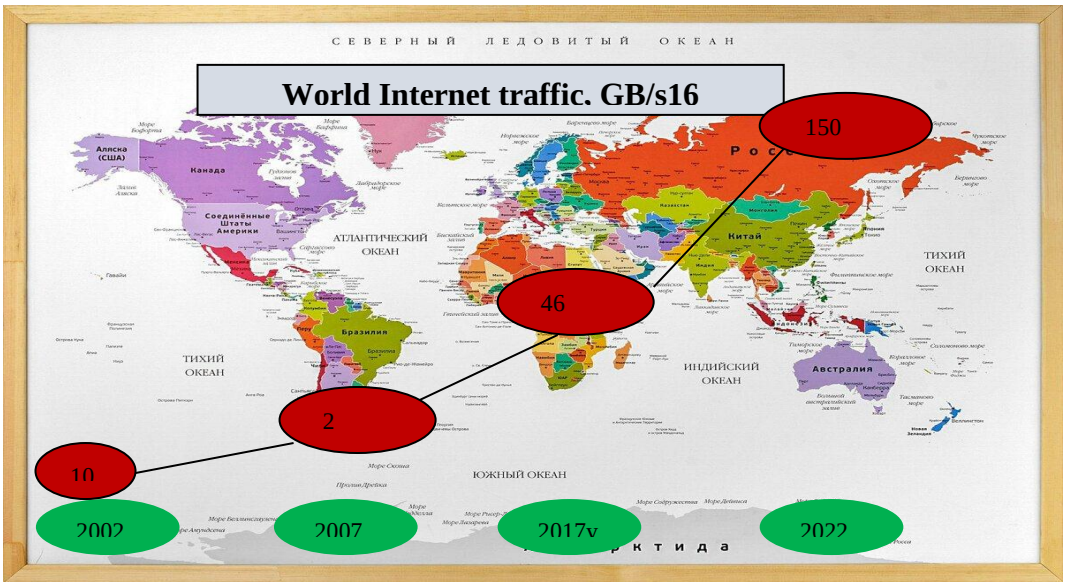

Rice. 1. World Internet traffic map, GB/s16 [3]

The size of the ICT market in developed countries, according to some estimates, ranges from 3% to 6% of GDP **[4].** In 2020, according to McKinsey forecasts, this figure should reach 9% **[5].**

Table 1 IT spending in the world [6]

YEARS	2017 y.		2018 y.		2019 y.	
INDICATORS	Expenses, $ billion	Growth in %	Expenses, $ billion	Growth in %	Expenses, $ billion	Growth in %
Data processing systems	178	4,4	179	0,6	179	-0,2
Enterprise Software	355	8,9	389	9,5	421	8,4
security	667	5,7	704	5,6	710	0,9
Devices	933	4,3	985	5,5	1 030	4,6
IT services	1 393	1,3	1 427	2,4	1 443	1,1
Communication Services	3 526	3,8	3 684	4,5	3 783	2,7

Industrial computer services is a unique sub-sector that is growing in all regions and one of the main sources of employment in the ICT sector. India has the largest share among developing countries.

The added value created in the production of products using ICT mainly comes from East Asia (primarily from China **[7]**), while the possibilities of other developing countries are still quite limited. Over the past 10 years, global export services in the field of ICT and digital services have grown much faster than the entire export service as a whole, which indicates the increased digitalization of the world economy.

Among the top 20 academic institutions in the field of patenting AI (hereinafter artificial intelligence), 17 are Chinese companies, as well as 10 of the top 20 scientific publishers in the field of AI **[8].** According to financial indicators, the total volume of the Chinese AI technology industry up to 2020. exceeded $22 billion by 2025. - should reach $60.3 billion and by 2030. reach 1 trillion. yuan (approximately $150.8 billion **[9].**

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This plan is interconnected with other strategic documents of China, it is set as the sixth priority among the 69 main tasks of the central government of China, defined in the "13th Five-Year Plan for the Development of National Strategic and Developing Industries" (2016-2020). **[10].**

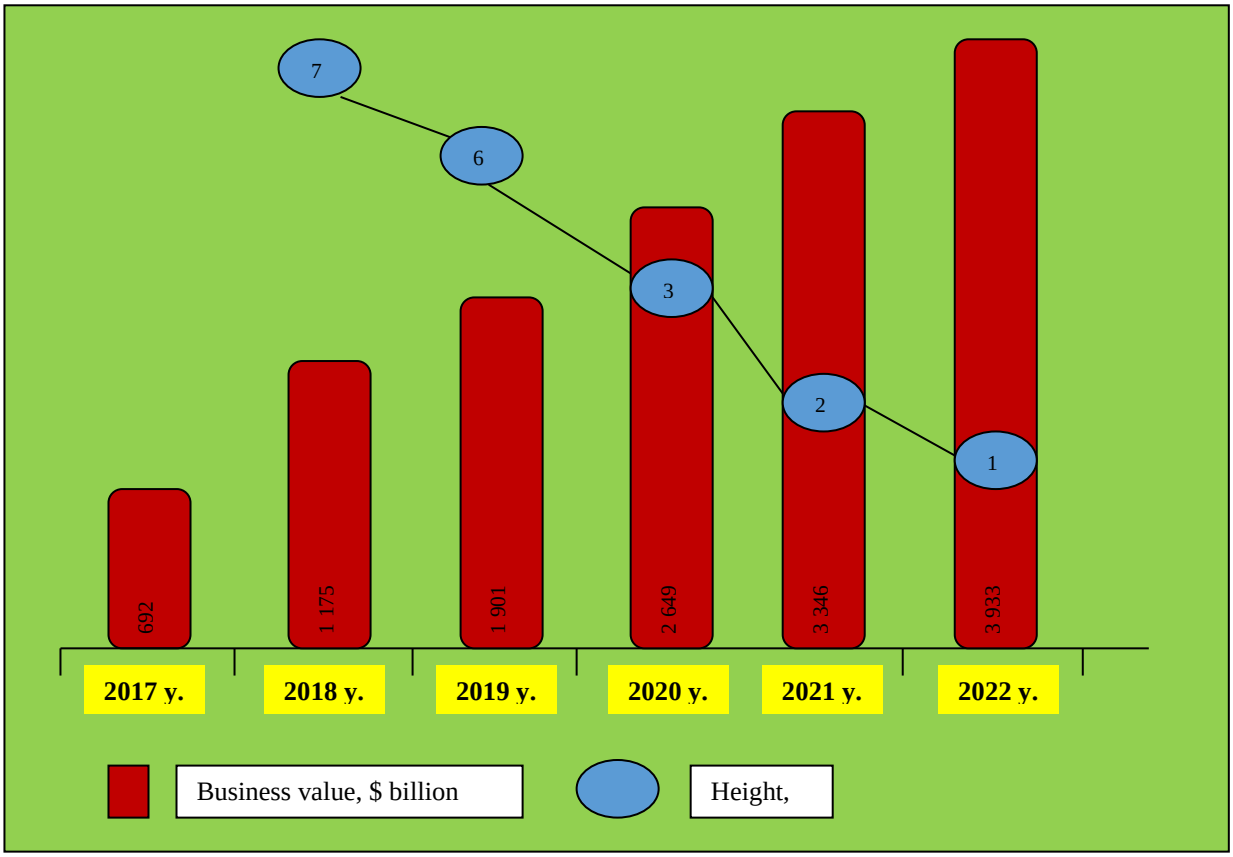

Fig.2. Forecast of the total profit of companies received thanks to artificial intelligence. [13]

The WIPO report states that the number of students enrolled in universities aimed at majors in the field of AI is growing several times every year **[11].**

Especially rapid growth is observed in China. Experts from the analytical agency Gartner assessed the commercial value of AI systems in companies representing different industries. The global business value generated by artificial intelligence was $1.2 trillion. in 2018, which is 70% more than in 2017. By 2022 the global value of AI will reach nearly $4 trillion. **[12]**

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SPHERE		EFFECT
Self-driving cars		**Dangerous Delay Elimination signal at high speed**
Industry		**High-speed industrial work and infrastructure unification**
Agriculture		**Remote management of rural farming, field and animal monitoring**
Education		**Learning via VR51 Broadcast**
Telemedicine		**Remote operations in real time**
Communication		**Interactive virtual reality, interaction at a distance**
Entertainment		**Fast wireless video transmission ultra high definition image, broadcasting events with VR effect**
Computer games		**Attracting many users VR games without signal delay**

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Fig.3. How 5g is changing lives [14]

Gartner experts believe that AI will become part of the digital transformation strategy and a priority for investments for almost a third of companies. The industries predicting the biggest impact from AI investments are: IT, technology and telecommunications (59%), commercial and professional services (43%), and consumer services and financial services (32%). **[15]**

Broadband Internet Access A transformative turning point that can create jobs, drive growth and productivity, and underpin long-term economic competitiveness is broadband. In 2011 The UN has recognized Internet access as one of the basic, inalienable human rights, along with the right to education, freedom of speech, and so on.

At the same time, it is possible to achieve an increase in labor productivity up to 1.73% by 2025. **[16]** A study conducted in Germany in early 2010 predicted that the laying of broadband networks could create nearly a million jobs over the next 10 years. **[17].** However, a study in Brazil found that broadband could boost employment growth by 1.4%.

In China, every 10% increase in broadband penetration is seen as contributing to GDP growth by an additional 2.5%. **[17].** Optimization and robotization of production, as well as increasing labor efficiency, will certainly bring out a number of workers in the economy, but in general, the impact of the development of the digital economy on the labor market will be positive.

Communication of the fifth generation 5G (fifth generation) The content of these technologies means the acceleration of data transmission by almost 40 times or more.

If we talk about the real speeds that ordinary users expect, then in 5G they will reach 10 Gb / s (for comparison: now the maximum speed of 4G for subscribers rarely exceeds 100 Mb / s). Further development of such technologies will lead to a revolution in industry, agriculture and transport. The possibility of uninterrupted and ultra-fast data transfer, as well as the ability of devices to exchange data directly, will allow remote control of agricultural machinery, industrial work or unmanned vehicles. The impact of 5G technologies on people's lives is illustrated in Figure 3 "How 5G is changing lives."

REFERENCES

1. Mesenbourg T.L. Measuring the Digital Economy. – U.S. Bureau of the Census, http://www. census.gov/content/ dam/Census/library/working-papers/2001/econ/digitalecon.pdf.
2. Digital Economy Report 2019 - United Nations Conference on Trade and Development, https://unctad.org/en/PublicationsLibrary/der2019_overview_ru.pdf.
3. Compiled by the author.
4. Measuring the Digital Economy. 5th IMF Statistical Forum Session II: Framing the Conceptual Issue Discussion by Vitor Gaspar, Director, Fiscal Affairs Department, IMF. – International Monetary Fund, 16 Nov 2017, https://www.imf.org/en/News/Articles/2017/11/16/sp111617-measuring-the-digital-economy.
5. A rising role for IT: McKinsey Global Survey results. – Business Technology Office, McKinsey & Company, December 2011, https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/a-rising-role-for-itmckinsey-global-survey-results.
6. Gartner Says Global IT Spending to Reach $3.7 Trillion in 2018, https://www.gartner.com/en/ newsroom/press-releases/2018-01-16-gartner-says-global-it-spending-to-reach-37-trillion-in-2018.
7. Digital Economy Report 2019.

Procedia of Theoretical and Applied Sciences
Volume 6 | April 2023
ISSN: 2795-5621 Available: http://procedia.online/index.php/applied/index

8. WIPO Report 2019, Technology Trends Series. Artificial intelligence. – WIPO, https://www.wipo.int/edocs/pubdocs/ru/wipo_pub_1055_exec_summary.pdf.
9. Superpowers of artificial intelligence. China, Silicon Valley and the New World Order (original "AI Superpowers: China, Silicon Valley, and the New World Order"), https://www.yakaboo.ua/sverhderzhavy-iskusstvennogo-intellekta-kitaj-kremnievaja-dolina-i-novyj-mirovoj-porjadok.html.
10. How China overtakes the US in the race for Artificial Intelligence. – Capital, February 27, 2019., https://www.capital.ua/ru/publication/124786-kak-kitay-obkhodit-ssha-v-gonke-zaiskusstvennyy-intellekt#ixzz6MOpH5U2Y.
11. State of AI Report 2019, https://www.stateof.ai; https://drive.google.com/file/d/1rdPH1wf7d2Nx8Ax9sxd9e EypvMQu8cn7/view.
12. Compiled by the authors based on Gartner Says Global Artificial Intelligence Business Value to Reach $1.2 Trillion in 2018. – Gartner, 25 April 2018, https://www.gartner.com/en/newsroom/press-releases/2018-04-25-gartner-says-global-artificial-intelligencebusiness-value-to-reach-1-point-2-trillion-in-2018.
13. Compiled by the authors based on Gartner Says Global Artificial Intelligence Business Value to Reach $1.2 Trillion in 2018.
14. Compiled by the author.
15. Stelmakh S. In a few years, most applications will be released with built-in AI. – itWeek, 20 июля 2017г., https://www.itweek.ru/idea/article/detail.php?ID=196421.
16. Digital Agenda of the Eurasian Economic Union until 2025: perspectives and recommendations. Review. – World Bank Group,http://documents.worldbank.org/curated/pt/413921522436739705/pdf/EAEU-Overview-Full-RUS-Final.pdf.
17. For details see: Broadband Commission for Digital Development presents report. – International Telecommunication Union, October 2010., https://www.itu.int/net/itunews/issues/2010/08/11-ru.aspx#1.
18. Bustonov M.M. Digital economy in improving the quality of economic growth// European Journal of Molecular & Clinical Medicine. ISSN 2515-8260 2020.Vol 07, Issue 07. https://www.scopus.com/results/authorNamesList.uri?sort=count-f&src (SCOPUS).
19. Bustonov M.M. Macroeconomic Trends and Patterns of SustainableEconomic Growth and its Quality// Test Engineering & Management. 2019. November-December. http://www.testmagzine.biz/index.php/testmagzine/article/view/221
20. Bustonov M.M. The Firm Aspects and conditions Providing the Qualities of Economic Growth in Uzbekistan //International Journal of Economic Theory and Application. 2017, 4(4): 32-39 http://www.aascit.org/journal/archive2?journalId=918&paperId=4704
21. Bustonov M.M., Ensuring Long-Term Economic Growth in the World and Econometric Analysis of Economic Growth of the Republic of Uzbekistan in the Context of Extensive, Intensive and Digital Economy. Miasto Przyszłości Kielce 2022, ISSN-L: 2544-980X. https://miastoprzyszlosci.com.pl/index.php/mp/article/view/406
22. Bustonov M.M., Analysis of Economic Growth in the Juglyar Cycle in World Countries. Web of Scholars: Multidimensional Research Journal (MRJ) Volume: 01 Issue: 03 | 2022 ISNN: (2751-7543) http://innosci.org/index.php/wos/article/view/53/37
23. Bustonov M.M. Digital Economy In Improving The Quality Of Economic Growth. European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 07, Issue 07, 2020.

24. Bustonov M.M. The firm aspects and conditions providing the qualities of economic growth in Uzbekistan. International Journal of Economic Theory and Application. 2017/ http:www.aascit.org/journal/I jeta
25. Bustonov M.M. Macroeconomic Trends and Patterns of Sustainable Economic Growth and its Quality. // Test engineering & Management November-December 2019.
26. Bustonov M.M. Digital Economy In Improving The Quality Of Economic Growth. European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 07, Issue 07, 2020.
27. Bustonov M.M. The Firm Aspects and conditions Providing the Qualities of Economic Growth in Uzbekistan. International Journal of Economic Theory and Application. 2017/ http:www.aascit.org/journal/I jeta
28. B. Baykhanov, Bustonov M.M. Econometric models of sectoral distribution of investments in the economy of Uzbekistan. SOUTH ASIAN Journal of Marketing and Management Research 2019
29. Bustonov M.M.,Maxmudov B.J., Rakhimov B.I. Directions for improving the efficiency of the monitoring of commercial banks loan commitments. A Multidisciplinary Peer Reviewed Journal, Vol. 6 Issue 5, May 2020 Page No.: 304-310. http://journalnx.com/journal-article/20151021
30. Bustonov M.M.,Maxmudov B.J., Rakhimov B.I. Basic concepts of the theory of uncertain sets and actions related to investment processes. International Engineering Journal For Research & Development. Vol. 5 No. 5 (2020): IEJRD, PUBLISHED: 2020-07-17
31. Rakhimov B.I., Bustonov M.M. Determination of the level of risks in investment projects using econometric model. International Journal of Innovations in Engineering Research and Technology [ijiert] issn: 2394-3696 website: ijiert.org volume 7, issue 8, aug.-2020. Impact Factor: SJIF 2020 = 7.525
32. Bustonov M.M.,Digital economy in improving the quality of economic growth. European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 07, Issue 07, 2020
33. Bustonov M.M.,Maxmudov M., Improving Economic Mechanisms to Encourage Efficient Use of Industrial Production Power in Kashkadarya Region/ Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 3, 2021, Pages. 8183 - 8196 Received 16 February 2021; Accepted 08 March 2021.
34. Rakhimov B.I., Bustonov M.M. Analysis of monitoring and fulfillment of credit obligations in commercial banks/ International Journal of Business, Law, and Education Volume 02, Number 02, 2021. file:///C:/Users/admin/Desktop/16-Article%20Text-61-1-10-20210524%20(1).pdf
35. Bustonov M.M.,Ensuring Long-Term Economic Growth in the World and Econometric Analysis of Economic Growth of the Republic of Uzbekistan in the Context of Extensive, Intensive and Digital Economy. Miasto Przyszłości ISSN-L:2544-980X Table of Content - Volume 26 (Aug 2022)
36. Bustonov M.M., Analysis of Economic Growth in the Juglyar Cycle in World Countries. Vol. 1 No. 3 (2022): Web of Scholars : Multidimensional Research Journal Analysis of Economic Growth in the Juglyar Cycle in World Countries
37. Bustonov M.M., Digitalization and Economic Growth. Miasto Przyszłości ISSN-L: 2544-980X Vol. 30 (2022): file:///C:/Users/Lenovo/Desktop/201-206+Digitalization+and+Economic+Growth.pdf
38. Bustonov M.M., Implementation of the single complex cluster system in the territory of Uzbekistan. EURASIAN JOURNAL OF ACADEMIC RESEARCH Innovative Academy Research Support Center UIF = 8.1 | SJIF = 5.685 www.in-academy.uz Volume 2 Issue 13, December 2022 ISSN 2181-2020

39. Bustonov M.M., Economic growth: theoretical and practical aspect. EURASIAN JOURNAL OF ACADEMIC RESEARCH Innovative Academy Research Support Center UIF = 8.1 | SJIF = 5.685 www.in-academy.uz Volume 2 Issue 13, December 2022 ISSN
40. Bustonov M.M.,Digital economy in improving the quality of economic growth. European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 07, Issue 07, 2020
41. Bustonov M.M.,Maxmudov M., Improving Economic Mechanisms to Encourage Efficient Use of Industrial Production Power in Kashkadarya Region/ Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 3, 2021, Pages. 8183 - 8196 Received 16 February 2021; Accepted 08 March 2021.
42. Bustonov M.M. Digital economy in improving the quality of economic growth// European Journal of Molecular & Clinical Medicine. ISSN 2515-8260 2020.Vol 07, Issue 07. https://www.scopus.com/results/authorNamesList.uri?sort=count-f&src (SCOPUS).
43. BM Mardonakulovich Test Engineering and Management 81 (11-12), 1581-1595
44. Econometric models of sectoral distribution of investments in the economy of Uzbekistan BT Baykhonov, MM Bustonov South Asian Academic Research Journals 9 (8)
45. Prediction indicators of economic growth quality M Bustonov market, money, credit.–Tashkent, 157
46. Digital economy in improving the quality of economic growth MM Bustonov European Journal of Molecular & Clinical Medicine ISSN, 2515-8260
47. Bustonov, M., and M. Irmatov. "Economic growth quality–condition of improving populations' living standards." In collection of lecture thesis of the republic academic-practical meeting namely "Perspectives of improving well-being of the people and progress of Uzbekistan in the condition of the world financialeconomic crisis".–Tashkent, p. 180. 2011.
48. Bustonov, M. "Conditions and perspectives of economic growth quality Ideas for business"–cooperation between Tashkent State Economy University and BAT University in the sphere of "INSPIRE" scheme of the Britain consultation. Collection of lecture thesis of the international academic-practical meeting." (2011): 103.
49. Bustonov, M., Sh, D. and Akhmedov, J., 2010. Macroeconomic analysis of indicators of economic growth. *Exchange Expert.–Tashkent*, (11-12), p.52.
50. BM Mardonakulovich, MB Bulturbayevich Economic growth: Quality and the digital economy Academicia Globe: Inderscience Research 1 (1), 1-8
51. BB Tursunbaevich, BM Mardonakulovich Econometric models of sectoral distribution of investments in the economy of Uzbekistan South Asian Journal of Marketing & Management Research 9 (8), 89-98
52. MB Juraevich, BM Mardonakulovich, RB Ibroximovich Basic concepts of the theory of uncertain sets and actions related to investment processes International Journal of Business, Law, and Education 2 (1)
53. Bustonov MM. Innovations are as economic growth quality. Incollection of lecture thesis of the republic academic-practical meeting namely "Strategy of modernizing economy: problems and passing ways to innovative development". Tashkent 2011 (p. 38).
54. Bustonov, M. M., & Makhmudov, N. (2011). Perspectives of developing micro business and providing its stable development. In Ideas for business"–cooperation between Tashkent State Economy University and BAT University in the sphere of "INSPIRE" scheme of the Britain

consultation. Collection of lecture thesis of the international academic-practical meeting.– Tashkent (p. 14).

55. Bustonov, M. M., MB Jurayevich ORGANIZATION OF CREDIT OBLIGATIONS AND MONITORING OF COMMERCIAL BANKS International Journal of Business, Law, and Education 1 (1), 26-32
56. M Bustonov IMPLEMENTATION OF THE SINGLE COMPLEX CLUSTER SYSTEM IN THE TERRITORY OF UZBEKISTAN Eurasian Journal of Academic Research 2 (13), 525-532
57. Bustonov M., Maxmudov B.J.Directions for improving the efficiency of the monitoring of commercial banks loan commitments A Multidisciplinary Peer Reviewed Journal 5 (6), 304-310
58. BM Mardonakulovich Digital Economy In Improving The Quality Of Economic Growth European Journal of Molecular & Clinical Medicine 7 (7), 740-750
59. MM Bustonov Quality of Growth: Analysis, Trends, Characterization and Modelling Process LAMBERT Academic Publishing, 2021y. Monograph
60. MM Bustonov Uzbekiston Republic sining extensive, intensive va raqamli iqtisodiyot sharoitida iqtisodiy ushishining econometrician takhlili Toshkent davlat iqtisodiyot of the university" Itisodiyot va talim" ilmiy
61. M Makhmudov, M Bustonov Improving economic mechanisms to encourage efficient use of industrial production power in kashkadarya region Annals of the Romanian Society for Cell Biology, 8183-8196
62. Ishimbayev R.N. Criteria and principle of capability // Miasta Przyslosci 29, P 334-337
63. Ishimbayev R.N. Competitiveness of small business // Science and innovation. International scientific journal 1 (ISSUE 8), P 90-96
64. Ishimbayev R.N. CLASSIFICATION OF THE ASSESSMENT METHODS OF THE COMPETITIVENESS OF A SMALL BUSINESS // EURASIAN JOURNAL OF ACADEMIC RESEARCH 2 (Issue 13), P 1065-1070
65. Ishimbayev R.N. Ways to increase the competitiveness of enterprises // Central Asian Journal of Innovations on Tourism Management and Finance. (2023) Vol 1.4. P. 174-177
66. Ishimbayev R.N. Ways to Increase competitiveness of small enterprises and private enterprises in Uzbekistan // MIASTO PRZYSZŁOŚCI. (2023) Vol 1 P. 346-349.
67. Ishimbayev R.N. Critries and assessment of competitiveness of small business // Sclentific and Technical Journal of Namangan Instituti of Engineering and Technology. (2022) Vol 7 P. 471-480
68. Залозная Г.М, Ишимбаев Р.Н. // Эволюция теоретических концепций конкуренции // Журнал экономической теории, 2014. № 4 С. 211-221
69. Ишимбаев Р.Н. Факторы, влияющие на развитие конкурентоспособности малого бизнеса и частного предпринимательства в Узбекистане. // Академические исследования в современной науке. 2022. Том 1. №19. С. 62-68
70. Ишимбаев Р.Н. Бизнес-экосистема как фактор повышения конкурентоспособности предприятия на рынке. // Miasta Przyslosci. 2022. Том 30. С. 376-377