American Journal Of Social Sciences And Humanity Research
(ISSN – 2771-2141)
VOLUME 02 ISSUE 06 Pages: 68-76
SJIF IMPACT FACTOR (2021: 5. 993) (2022: 6. 015)
OCLC – 1121105677 METADATA IF – 5.968
Publisher: Oscar Publishing Services

Journal Website: https://theusajournals.com/index.php/ajsshr

Research Article

PROSPECTS FOR THE DEVELOPMENT OF INNOVATIVE CLUSTERS IN THE IMPLEMENTATION OF STRUCTURAL CHANGES IN THE CHEMICAL INDUSTRY

Submission Date: June 08, 2022, Accepted Date: June 18, 2022,
Published Date: June 29, 2022
Crossref doi: https://doi.org/10.37547/ajsshr/Volume02Issue06-13

Tukhtaev Akobirjon Khakimovich
Independent researcher at in the Presence of the Republic of Uzbekistan and the President Public Administration academy, Republic of Uzbekistan

ABSTRACT

The article highlights the opportunities for the development of innovative clusters based on the study of foreign experience in the implementation of structural changes in the chemical industry, the analysis of trends in the global chemical industry.

KEYWORDS

Chemical industry, transformation, management, innovation cluster, efficiency, effectiveness, integration.

INTRODUCTION

In the context of globalization of the world economy, we can see in the experience of developed countries that the implementation of transformation processes in real sector enterprises, increasing investment attractiveness by improving its organizational and economic mechanisms, management, private ownership and property-based institutions.[1]

Improving the organizational and economic mechanism of transformation process management in industrial enterprises, development of theoretical and

American Journal Of Social Sciences And Humanity Research
(ISSN – 2771-2141)
VOLUME 02 ISSUE 06 Pages: 68-76
SJIF IMPACT FACTOR (2021: 5. 993) (2022: 6. 015)
OCLC – 1121105677 METADATA IF – 5.968
Publisher: Oscar Publishing Services

methodological bases of transformation process management, economic substantiation of transformation process management mechanisms in enterprises and improvement of organizational economic mechanisms of transformation process management in industrial enterprises serves. Therefore, in the experience of developed countries in recent decades, special attention is paid to research work on accelerating the transformation process in enterprises related to the chemical industry, improving management strategies and modern management principles aimed at increasing its efficiency. At present, as a result of the effective implementation of transformation processes in industrial enterprises, large-scale reforms are needed to implement reforms in priority areas such as digital management, creation of organizational and economic mechanisms based on innovative approaches to market requirements, cluster management, creating opportunities for owners, reducing government intervention. scientific research is underway.[2]

Uzbekistan is taking comprehensive measures to provide comprehensive support to industrial enterprises, provide benefits to the industry, improve management mechanisms and increase the efficiency of processes. In particular, the Strategy "Digital Uzbekistan - 2030" was approved by the Decree of the President of the Republic of Uzbekistan dated October 5, 2020 PF-6079. In accordance with this strategy, it is planned to implement digital transformation programs of regions and sectors in 2020-2022. At the same time, on December 15, 2021, the Cabinet of Ministers adopted Resolution No. 753 "On measures to establish an innovative chemical research and production and education cluster for the chemical industry." The resolution states that the Academy of Sciences of the Republic of Uzbekistan, the Ministry of Higher and Secondary Special Education, the Ministry of Innovative Development and the Atomic Energy Development Agency under the Ministry of Energy have formed an innovative chemical research and education cluster for the chemical industry.[3]

As a result of reforms in the chemical industry, 443 projects have been developed in the industry, of which 194 have been implemented to date. 1,172 out of 1,643 projects in the program have been implemented in the regions. [4]

Privatization to improve the organizational and economic mechanism of transformation process management in industrial enterprises, reduction of state participation in enterprise management, wider use of corporate governance principles, production of digital technologies and innovative activities, development of industrial enterprises based on infrastructure and integration of science, education and production The implementation of scientific research in such areas is a topical issue.[5]

LITERATURE REVIEW

Many foreign scientists, in particular, I.Ansoff, T.Kono, J. Quinn, R. M. Kunts, A.V. Lanskov, H. Mintsberg, M. Porter, and A. Thompson. In particular, the scientific work of I. Ansoff, J. Kornai, R. Kunts, P. Drucker, F. Kotler, B. Karlof, A. Strickland, A. Thompson, A. [6]Owen on the study of transformation processes as a tool of strategic management has become a classic. [7] Despite the significant contribution of these researchers to the economic science, they do not take into account the specifics of the management of the transformation of industrial enterprises, as well as the specifics of managing the process of re-adaptation of business entities to modern requirements.[8]
Evaluation of textile and clothing industry clustering capabilities in Uzbekistan were reseearcged by

American Journal Of Social Sciences And Humanity Research
(ISSN – 2771-2141)
VOLUME 02 ISSUE 06 Pages: 68-76
SJIF IMPACT FACTOR (2021: 5. 993) (2022: 6. 015)
OCLC – 1121105677 METADATA IF – 5.968
Publisher: Oscar Publishing Services

Ergashxodjaeva, S. J. [20], Kyvyakin, K. S., Tursunov, B. O.[12,13,16,17], evaluation of competitiveness of brands of local sewing and knitting enterprises were studied by Hakimov, Z.[15], innovative and export potential of the agro-industrial complex of Uzbekistan were inverstigated by Yuldashev, N. K., [14], Umarkhodjaeva, M. [18], Saidova, M., [19] and others.
Also, some foreign researchers as well as Kaya M.[21], Abdyldaev, M.[22], Polat, C.[23], ÖZDEN K. [24], Maksudunov A. [25,27], ELEREN A. [26] researched of some marketing issues of durable consumer goods.

In the countries of the Commonwealth of Independent States G.I. Nemchenko, A.A. Bocharov, TA Khudyakova, S.A.Shevchenko, S.Yu. Scientists such as G. Svetunkov, DV Sokolov and VV Tomilov conducted research. In the scientific work of these scientists today studied the problem of economic relations related to the processes of transformation in industrial enterprises, strategies related to the creation and development of a competitive environment, classified forms and types of transformation. On specific areas of transformation of the enterprise: organizational mechanisms (VV Ivanov); increase efficiency (G.I.Nemchenko); research on corporate governance (P.V. Zabelin), individual enterprise management (A.A. Bocharov, T.A. Khudyakova, S.A. Shevchenko).[9]

Scientific researches on studying of general problems of improvement of the organizational and economic mechanism of management of the enterprises in Uzbekistan are carried out by economists of the country Sh.Zaynutdinov, M.Ikramov, B.Berkinov, D.Rakhimova, B.Khodiev, M.Makhkamova, T.Tashpulatov, G.Khamdamova, G .Xasanova, Sh.Sindarov, Sh.Nazarov, S.Umarov, G.Shaxnazarova, R.Nurimbetov, D.Suyunov, M.Xamidulin, A. Bekmuradov, M. Boltabaev, N. Maxmudov, N. Has been studied in scientific researches of Rasulov, I.Umarov and others.

RESEARCH METHODOLOGY

In the implementation of structural changes in the chemical industry, the methods of scientific observation, logical thinking, comparative analysis, induction, deduction, evaluation of the prospects for the development of innovative clusters were used. Brief description of the results of the research:

- The scientific views of some economists on further strengthening the link between science, education and production in the effective implementation of transformation processes in industrial structures using the methods of scientific observation, logical thinking and comparative analysis;
- Recommendations were made to cooperate with scientific institutions to further accelerate the transformation process in the chemical industry, to strengthen scientific research in the field. For example, in the development of export-oriented production in the chemical industry, the activation of transformation processes, giving priority to areas with relative advantage, the organization of innovation clusters in the industry and the full promotion of scientific research;
- First of all, it is necessary to significantly reduce government intervention in the effective implementation of transformation processes in the industry and to upgrade the fixed assets of enterprises of JSC "Uzkimyosanoat". Therefore, it is proposed to take serious measures to improve the quality of management and risk management in state-owned enterprises and to attract foreign investment in the sector;
- scientifically substantiated the activation of transformation processes in the chemical industry,

American Journal Of Social Sciences And Humanity Research
(ISSN – 2771-2141)
VOLUME 02 ISSUE 06 Pages: 68-76
SJIF IMPACT FACTOR (2021: 5. 993) (2022: 6. 015)
OCLC – 1121105677 METADATA IF – 5.968
Publisher: Oscar Publishing Services

the implementation of investment projects and the expansion of the range of high value-added chemical products;

- The importance of improving the management system of enterprises operating in the chemical industry based on today's requirements has been scientifically substantiated.

ANALYSIS AND RESULTS

Today, there are more than 1.5 billion consumers of chemical products worldwide. From the observations of experts in the field of chemistry around the world, it is clear that the demand for chemical products is growing from year to year. Today, due to the application of modern technologies in the global chemical industry, the introduction of digital technologies and the strengthening of scientific research, there is a decrease in cost and positive economic changes in the production of products.[10]

If we pay attention to the analysis, we can observe a sharp growth in the chemical industry over the last 30 years. In particular, the production of chemical fiber in 1990 amounted to 19.0 mln. tons, plastic production 91.0 mln. tons and 155.0 mln. tons, by 2020 the production of chemical fiber and plastic increased by 4 times, and the production of mineral fertilizers by 1.2 times (Figure 1).

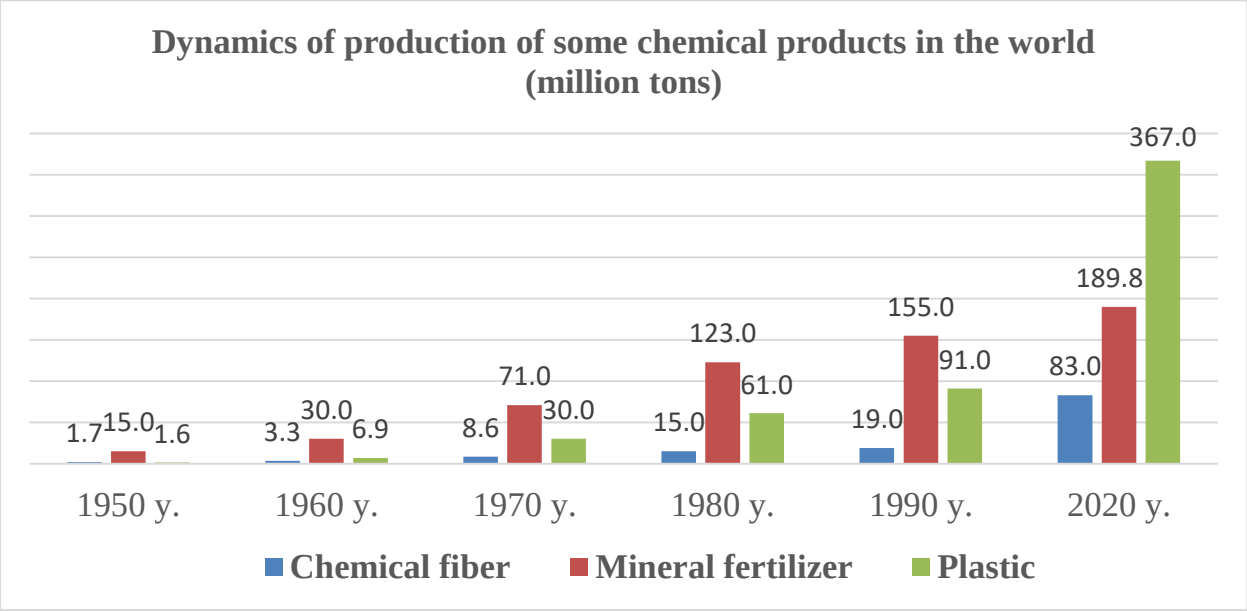


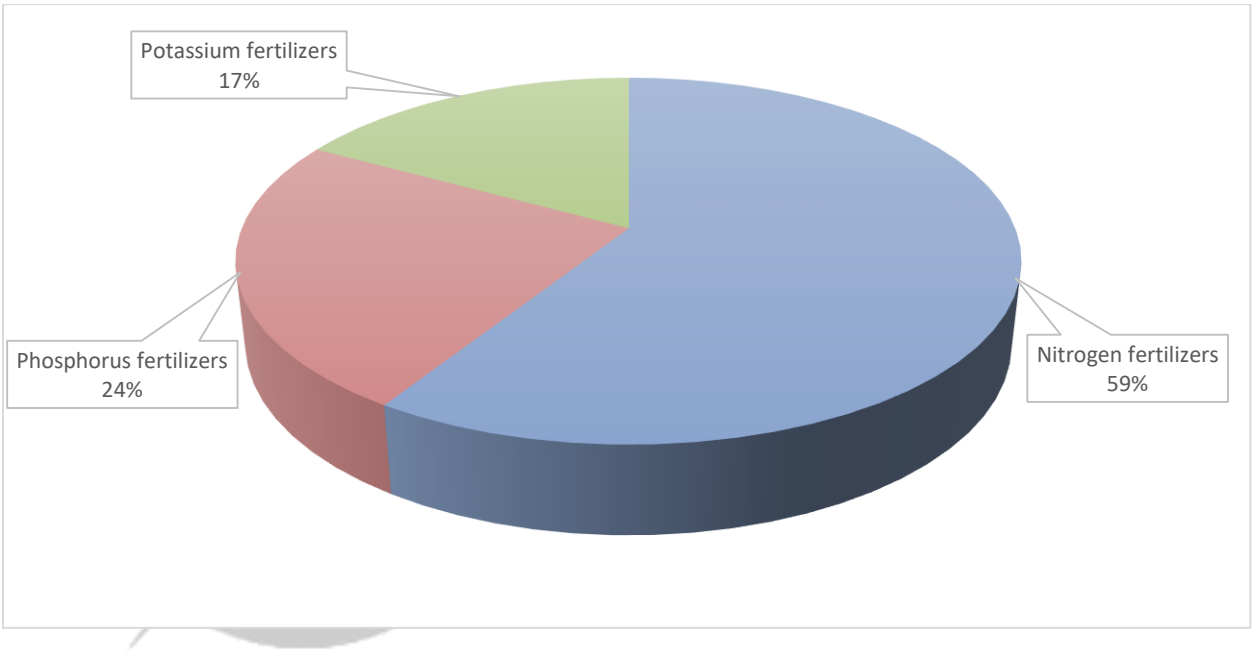
Figure 1. Production potential of the world chemical industry

Currently, the largest producers of mineral fertilizers in the world are China (around 25%), India (around 13%), the United States (around 10%) and Russia (around 8%). In recent years, the U.S. share of the global fertilizer market has been steadily declining. Today, the world market of mineral fertilizers consists mainly of nitrogen, phosphorus and potassium fertilizers, and their share is as follows. In particular, nitrogen

American Journal Of Social Sciences And Humanity Research
(ISSN – 2771-2141)
VOLUME 02 ISSUE 06 Pages: 68-76
SJIF IMPACT FACTOR (2021: 5. 993) (2022: 6. 015)
OCLC – 1121105677 METADATA IF – 5.968
Publisher: Oscar Publishing Services

fertilizers account for 59%, phosphorus fertilizers for 24%, and potassium fertilizers for 17% (Figure 2).

In the case of Uzbekistan, the demand for mineral fertilizers in agriculture in 2020 is about 395 thousand tons, of which the demand for nitrogen fertilizers is 221 thousand tons, phosphorus fertilizers - 162 thousand tons and potassium fertilizers - 12 thousand tons. According to experts in the chemical industry, phosphorus and potassium fertilizers produced in Uzbekistan cover only 30% of the total demand in the domestic market. Because the fixed assets of the existing chemical industry enterprises in our country are obsolete and out of date. At the same time, the obsolescence of the main production facilities of enterprises, in turn, leads to an increase in energy costs and rising production costs.



	nitrogen fertilizers		
			Potassium fertilizers
	Phosphorus fertilizers		

Figure 2. The composition of the world mineral fertilizer market

In our country, not only agriculture, but also the development of industry, liberalization of entrepreneurial activity, the opportunities provided to them by the state in all respects lead to an increase in demand for chemical products from year to year. Therefore, great attention is paid in our country to the development of the chemical industry, the efficient use of local raw materials, the development of scientific technology aimed at reducing the cost of goods and products.

American Journal Of Social Sciences And Humanity Research
(ISSN – 2771-2141)
VOLUME 02 ISSUE 06 Pages: 68-76
SJIF IMPACT FACTOR (2021: 5. 993) (2022: 6. 015)
OCLC – 1121105677 METADATA IF – 5.968
Publisher: Oscar Publishing Services

Over the past 4-5 years, the gradual reduction of barriers affecting the trade turnover of chemical products between countries, the abolition of some of which has led to an increase in the number of manufacturing enterprises that require chemical products. For example, the development of the chemical industry in our country is achieved in the automotive, construction, household goods and food industries.

Based on the above, we consider it expedient to carry out the following tasks in order to ensure the full operation of chemical enterprises in our country:

- Modernization of low-profit enterprises in the structure of JSC "Uzkimyosanoat", the sale of state shares and the acceleration of the transformation process;
- Introduction of cost-effective technologies in production, introduction of modern management methods;
- implementation of measures to increase the competitiveness of the chemical industry in domestic and foreign markets in terms of prices;
- Development of modern low-cost methods of processing waste generated in the production process, obtaining technical salts from them and the establishment of waste processing enterprises;
- Expanding the production of food additives required for the food industry;
- Development of cooperation between science and industry;
- Organization and development of innovative clusters in the implementation of structural changes in the chemical industry;
- Taking into account the fact that the country has reserves of phosphorus, it is necessary to effectively use existing reserves, optimize the production of fertilizers in the development of the agricultural sector.

Effective organization of innovative cooperation between science and industry in the chemical industry of the Republic on the basis of advanced foreign experience will ensure the future competitiveness of the industry not only in the national but also in the world market. At the same time, the development of innovative clusters in the implementation of structural changes in the industry will stimulate, firstly, the activation of diversification of production, and secondly, the direct application of scientific achievements in production to increase the export potential of the industry. To do this, along with the effective implementation of transformation processes in the chemical industry, it is necessary to provide the industry with highly qualified personnel and scientific personnel. To do this, it would be advisable to give priority to:

- Conducting research in the field of chemistry and commercialization of innovative developments. To this end, improve the mechanisms for applying research results to enterprises of the chemical industry;
- intensification of the process of developing scientifically based proposals for technological transformation and development of the chemical industry;
- support for scientific research, diversification of chemical products and expansion of production of new types of import-substituting and export-oriented competitive chemical products;
- Training of scientific personnel in the field of chemistry and related specialties, as well as comprehensive support for talented youth;
- strengthening ties with relevant scientific organizations, higher education institutions and

American Journal Of Social Sciences And Humanity Research
(ISSN – 2771-2141)
VOLUME 02 ISSUE 06 Pages: 68-76
SJIF IMPACT FACTOR (2021: 5. 993) (2022: 6. 015)
OCLC – 1121105677 METADATA IF – 5.968
Publisher: Oscar Publishing Services

industry enterprises in order to ensure the integration of science and industry in the field of chemistry;

- Improving the professional skills of scientists in developed countries, as well as the involvement of foreign scientists and specialists in the activities of scientific clusters, including compatriots in the field;
- Wide introduction of modern information technologies in scientific and educational activities for the development of scientific clusters in the chemical industry.

CONCLUSIONS

The following conclusions and recommendations were made on the implementation of structural changes in the chemical industry, ensuring its sustainability and the development of innovative clusters:

- Introduction of new investment projects in the industry while maintaining the quality of existing enterprises;
- Reducing costs and increasing the competitiveness of products through the introduction of modern cost-effective equipment and technologies in the industry;
- Attracting highly qualified personnel in the field of chemistry and constantly improving their skills;
- Wider use of modern management methods in further intensification of transformation processes in the network;
- in the organization of large-scale production projects that create added value through the deep processing of existing waste and raw materials in the industry and the implementation of an effective diversification policy;
- increase production and sales of products for domestic and foreign markets;
- creation of multi-level value chains from raw materials to finished products on the basis of new production capacities from local raw materials;
- Organization of innovation processes in the chemical industry, the establishment of cooperation between science, education and industry on the basis of advanced foreign experience in the transfer of modern technologies;
- Ensuring that the enterprises of the sector do not accumulate large amounts of inventory.

In conclusion, the development of clear mechanisms for the development of innovative clusters in the implementation of structural changes in the chemical industry will lead to further activation of transformation processes in the chemical industry, the development of high-tech processing industries. At the same time, first of all, the implementation of high-value-added finished products with efficient use of local raw materials, modernization of the industry, increasing the economic efficiency of the chemical industry and the development of new products and technologies, improving the competitiveness of products in domestic and foreign markets.

REFERENCES

1. https://lex.uz/ru/docs/5775428
2. https://uza.uz/uz/posts/davlat-korkhonalarini-islo-ilish-va-khususiylashtirish-b-yich-28-10-2020
3. https://latifundist.com/analytics/17-obzor-mirovogo-rynka-mineralnyh-udobrenij-2021-tseny-ostayutsya-vysokimi
4. https://agroworld.uz/
5. https://dcenter.hse.ru/

American Journal Of Social Sciences And Humanity Research
(ISSN – 2771-2141)
VOLUME 02 ISSUE 06 Pages: 68-76
SJIF IMPACT FACTOR (2021: 5. 993) (2022: 6. 015)
OCLC – 1121105677 METADATA IF – 5.968
Publisher: Oscar Publishing Services

6. Ansoff I. New corporate strategy. - St. Petersburg: "Peter", 1999.-416 p.; Ansoff I. Strategic management: per. from English. - M.: Progress, 1999.-519 p.
7. Kunz R. Management: systemic and situational analysis of managerial functions / R. Kunz S. O'Donnell: per. from English. - M: Progress, 1991. - 201 p.
8. Owen A. How to implement the strategy // Reader "Change Management". - M: MTsDO "Lina", 2006. - p. 141-149.
9. A. A. Thompson A. J. Strickland: per. from English; ed. L.G. Zaitseva M.I. Sokolova. - M.: Banks and stock exchanges, UNITI, 2008. -576p.
10. Burkhanov, A., & Tursunov, B. O. (2020). Main indicators of textile enterprises' financial security assessment. Vlakna a Textil, 27(3), 35-40.
11. Abdurakhmanova, G. K., Fayziyeva, D. S., Gaibnazarov, S. G., Tursunov, B. O., & Shayusupuva, N. T. (2020). Methodical aspects of establishing a control system over compliance with principles of decent work and social security in textile enterprises. Journal of Advanced Research in Dynamical and Control Systems, 12(5), 73-81.
12. Tursunov, B. O. (2019). Methodology for assessment the efficiency of production capacities management at textile enterprises. Vlakna a Textil, 26 (2), 74-81.
13. Tursunov, B. O. B. I. R. (nd). safeiqro sawarmoebaSi gamoyenebuli simZlavreebis efeqtianobis amaRleba sawarmoo maragebis marTvis safuZvelze. ინოვაციური ეკონომიკა და მართვა, 85.
14. Yuldashev, N. K., Nabokov, V. I., Nekrasov, K. V., & Tursunov, B. O. (2021). Innovative and export potential of the agro-industrial complex of Uzbekistan. In E3S Web of Conferences (Vol. 282, p. 06004). EDP Sciences.
15. Abdirahmonovich, A. T., Hakimov, Z., Tursunov, B., & Oqboyev, A. (2021). Evaluation of Competitiveness of Brands of Local Sewing and Knitting Enterprises. Revista geintec-gestao inovacao e tecnologias, 11(2), 716-739.
16. Tursunov, B. O. (2019). Methodology for assessment the efficiency of production capacities management at textile enterprises. Vlakna a textil. Vol 2, 2019.
17. Tursunov, B. (2021). Cluster Analysis of the Industrial Sector in Ensuring the Financial Security of Textile Enterprises of Uzbekistan. Asian Journal of Technology & Management Research (AJTMR) ISSN, 2249(0892).
18. Tursunov, B. O., Umarkhodjaeva, M., Rustamov, N., Umarova, G., & Rejabbaev, S. (2021). Analysis of Industrial Production Potential in Ensuring the Economic Security of the Regions. REVISTA GEINTEC-GESTAO INOVACAO E TECNOLOGIAS, 11(3), 1411-1421.
19. Kholmuminov, S., Tursunov, B., Saidova, M., Abduhalilova, L., & Sadriddinova, N. (2021, December). Improving the Analysis of Business Processes in Digital Era. In The 5th International Conference on Future Networks & Distributed Systems (pp. 775-789).
20. Ergashxodjaeva, S. J., Kyvyakin, K. S., Tursunov, B. O., & Ahmadovich, H. Z. (2018). Evaluation of textile and clothing industry clustering capabilities in Uzbekistan: based on model of M. Porter. Int J Econ Manag Sci, 7(439), 2.
21. Kaya, M., & Maksudunov, A. (2017). Öğrencilerin Otel İşletmelerindeki İş Etiğine Yönelik Algıları. In International Conference on Eurasian Economies (Vol. 192, p. 198).
22. Chavus, S., Maksudunov, A., & Abdyldaev, M. (2012). Tourism competitiveness in Central Asian Turkish Republics: An assessment in terms of

American Journal Of Social Sciences And Humanity Research
(ISSN – 2771-2141)
VOLUME 02 ISSUE 06 Pages: 68-76
SJIF IMPACT FACTOR (2021: 5. 993) (2022: 6. 015)
OCLC – 1121105677 METADATA IF – 5.968
Publisher: Oscar Publishing Services

entrepreneurship. International Journal of Business and Social Science, 3(23), 116-121.

23. Polat, C., & Maksudunov, A. (2012, October). Mobil telefon pazarında üniversite öğrencilerinin tercihleri: Kırgızistan örneği. In International Conference on Eurasian Economies (Vol. 11, p. 13).
24. ÖZDEN, K., & MAKSÜDÜNOV, A. (2012). The importance of country of origin on purchasing durable consumer goods: In case of Kyrgyzstan. Journal of Yasar University, 25(7), 4348-4356.
25. Maksüdünov, A. (2019). Otel web sitelerinin içerik analizi yöntemiyle değerlendirilmesi: Bişkek'te bir araştırma. Karamanoğlu Mehmetbey Üniversitesi Sosyal ve Ekonomik Araştırmalar Dergisi, 21(37), 186-196.
26. MAKSÜDÜNOV, A., ÇAVUŞ, Ş., & ELEREN, A. (2016). YÜKSEK ÖĞRETİMDE ÖĞRENCİLERİN HİZMET KALİTESİNE YÖNELİK ALGILAMALARI. Manas Sosyal Araştırmalar Dergisi, 5(4), 65-76.
27. MAKSÜDÜNOV, A. (2018). GİRİŞİMCİLİK MOTİVASYONUNU ETKİLEYEN FAKTÖRLER: KIRGIZİSTAN VE HİNDİSTAN'DA LİSANSÜSTÜ ÖĞRENCİLER ÜZERİNE KARŞILAŞTIRMALI BİR ARAŞTIRMA. Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 15(41), 38-56.