Journal of Advanced Zoology

ISSN: 0253-7214

Volume ***44*** *Special Issue* ***-02 Year 2023*** *Page* ***690:701***

METHODOLOGY OF EMPIRICAL KNOWLEDGE OF KNOWLEDGE ECONOMY DEVELOPMENT

Mukhitdinov Khudayar Suyunovich[1], Ulashova Shakhlo Togayevna[2], Muxitdinov Shoxjahon Xudoyor ugli[3], Qodirov Farrux Ergash ugli[4], Bekmurodova Saodat Ikromovna[5],

[1]Professor of the Department of business and innovative management, Karshi engineering economics institute, xsmuxitdinov@gmail.com

[2]Senior teacher, Department of Information Technology Software, TUIT Karshi Branch, shakhloulashova@gmail.com

[3]Associate Professor, Karshi State University, shoxjaxonmuxitdinov082@gmail.com

[4]Senior teacher, Department of Computer systems, University of Economics and Pedagogy Non-state educational institution, farruxqodirov0902@gmail.com, https://orcid.org/0000-0002-4574-7728

[5]Independent researcher University of Economics and Pedagogy Non-state educational institution

Article History

Received: 27Aug 2023

Revised: 28Sept 2023

Accepted: 06Oct 2023

Abstract: Development of the knowledge economy. The region was given an understanding of how to use convergence processes to improve the quality of educational services and develop the knowledge economy. The concept of convergence processes was analyzed a numerical process. In particular, it is based on improving the quality of education by introducing digital technologies.

Keywords: convergence processes, knowledge economy, digital transformation, professional education, labor market, creativity, digital concept, empirical and cognitive, interactive.

1. INTRODUCTION

Today, more than ever, education plays a huge role in the life of society and the state as a whole. In modern times, fundamental changes are taking place in economic, political, and other spheres. The policy of the state government is to increase the growth rate of the country's development, and to solve this problem, it is necessary to form new creative and high-level specialists who meet modern requirements.

It is an objective necessity for all participants of the educational process of the higher education system of Uzbekistan to implement state educational standards, to create organizational and methodological support for the effective work of all state non-state universities. This allows to preserve the famous Uzbek schools, but also to train a new generation of researchers. In order to direct the knowledge economy to the needs of the innovative knowledge economy, fundamental scientific research should be the most important source and tool for students to acquire the competencies of searching,

analyzing, absorbing and updating information. This indicates the need to improve the economy of knowledge using empirical methods with the help of information communication systems.

In world practice, to develop the education system, an economy using empirical methods is organized. In countries with knowledge economies, empirical methods are used to organize the economy. A person's knowledge of nature is formed by studying the various aspects, laws, and features of the economy. According to empirical and econometric methods, there are different doctrines and views about the nature of the knowledge economy. One such view is scientific knowledge, which is based on the achievements of science and is fundamentally different from ordinary everyday knowledge, absent knowledge, etc.

2. METHODS

Empirical methods of the knowledge economy protect it from errors and one-sidedness by jointly studying all aspects of the economy and their connections. Certain systems of knowledge created from empirical knowledge give rise to economic processes. Therefore, economics has scientific systems about nature, society, and human thinking. The word "empiric" is an ancient Greek word that means experience. Empirical research means the development of necessary practical proposals and recommendations based on the analysis and generalization of empirical data obtained on life, events and processes on a practical basis with a new program and methodology [41].It is known that experience is one of the methods of knowing existence. Beruni writes: "Only experience and repeated testing can eliminate my doubt, ... despite the consensus of the speakers, its validity has not been confirmed by experience" [2].According to researchers, "Beruni can be considered one of the creators of the empirical method in medieval science with sufficient reason. He conducted several experiments to determine the properties and specific gravity of metals and minerals.» [42].According to Beruni, the observer perceives the observed phenomenon in the place where it occurs. Consequently, observation records this or that event in its specific form. Old observational data can greatly distort the true performance of the object.

Bacon developed a new interpretation of the tasks of science in his "New Organon".[43]. He founded the methodology of experimental natural science. Using this methodology, new scientific discoveries can be made. But experience can only give reliable knowledge if the mind is free from errors. "Seed ghosts" are errors in reasoning about nature by analogy with human life. "Ghosts of the cave" are errors that are specific to individuals and influenced by their upbringing, tastes, and habits.

F. Bacon argued that all these idols must be rejected and thrown away, and the mind must be completely freed from them and purified. To achieve this, each science, each theory, and each theoretical conclusion should be based on empirical data, and the induction method should become a primary method of research.

Induction(lat. inductio (from the word "eliminate") method requires that any theoretical conclusion be based on experimental data.

Bacon opposes induction as a method to deduction (from the word Deduction - conclusion). In deduction, thought moves from top to bottom, from general considerations to specific evidence. The method of deduction is the source of many errors. The most reliable method is the movement of thought from the bottom up - the induction method.

At the same time, F. Bacon is not a supporter of one-sidedness in evaluating different methods of research. He notes that the most effective scientific knowledge can only be the product of experience and reasoning, analysis and synthesis, induction and deduction.

Although the information coming from our senses is like a mirror, it is an uneven mirror. The task of the mind is to organize this information and not allow the nature of the mirror to interfere with our knowledge of nature. Experienced knowledge is interpreted by the thinker as reliable knowledge according to certain criteria. Observability of objects, reproducibility of experiments and verifiability of observations can be noted among them.

Doctor of Philosophy professor S. A. Lebedev means empirical knowledge implies the following [50]:

1. The simplest form of empirical knowledge is formed as a result of observation preliminary knowledge. In this case, the object of observation and the time of implementation are clearly defined. Observation and experiment are directed to the creation of scientific knowledge and represent a specific goal. A research hypothesis is an idea put forward in solving a scientific problem. So the observation experiment is conducted with the purpose of confirming or disproving any idea.

2. Empirical knowledge is expressed in empirical laws of different directions. Empirical laws express general relationships between phenomena that apply to the observed object. Empirical laws are in most cases hypothetical, probabilistic knowledge, and they are formed as a result of inductive generalization. Empirical laws mean the generalization of the results of observation and experiment, the formation of general knowledge based on the analysis of individual characteristics. This knowledge can only confirm this or that idea. But he cannot justify it.

Through empirical methods, the issues of developing the conceptual foundations of the knowledge economy have been studied to a certain extent by foreign economists as a separate research direction. In particular, the problems of the human factor were first discussed by U. Petty [3], A. Smith, D. Ricardo [4], the differentiated role of education in economic development, quality indicators of the individual, man as a subjective factor in the economy views L. Walras, Dj. M. Clark, Dj. Mill, U. Rosher[7], problems of formation of knowledge economy based on high technologies D. Bell[8], Dj. K. Galbraith[9], P. Balaji[10], Dretske Fred [10] new industrial society E. Tofler, F. Perru [12,13], investments in human capital F. Makhlup, G. Becker, T. Schulz, Dj. Minser, T. Stewart [13,14,15,16,17] and researched by other scientists.

Modern conditions of the knowledge economy B.3.Milner, T.YE.Stepanova, M.YE.Chensova intellectual capital, information and hierarchical models were studied in scientific research of M.Y.Shlyakhtin, D.A. Ushanov, E.I.Xayrullina and A.S. Murtazin [19,20,21,22,23,24,25].

Like the practical activities of developed countries in the field of education, our educational system focuses on the competent development of the individual in the social, economic and business spheres, in the context of social information, as well as in the integration of pedagogical and information technologies.

New directions in the socio-economic development of modern countries are primarily innovative economy based on Y. Schumpeter's idea [27], it consists of network economy [29] and digital economy [29] introduced by D. Tapscott in the concepts presented in the scientific works of J. Hawkins called the theory of knowledge economy or creative economy[26].

In the definition put forward by Y.A.Korchagin, the economy of knowledge is considered as a stage that has reached the highest category of the innovative economy [31].This definition became the basis for the researcher to approach the economy of knowledge from a historical perspective as a new stage.According to the economist S. Berger, "Knowledge economy is such an economy in which intellectual capital, the scientific potential of employees, which is the main resource of the strategic

development of the enterprise at all stages from the production of goods and services to the delivery to the consumer, belongs only to the enterprise itself. scientific and technical achievements and know-how and innovations serve".

In the analysis of the definitions given to the concept of knowledge economy, it can be observed that it is approached as an economic relationship. For example, Y.V Smagin: "... knowledge economy is a modern economic attitude based on experts who can introduce new technologies. In this case, new relations will emerge in the solution of local and global issues and in the introduction of tomorrow's technologies into the economy»[30], - describes. In this case, when the knowledge economy reflects the process of selling and buying human capital, then the economic relationship to it comes from the fact that it can be approached as a business process. Investment in human capital contributes to the development of the knowledge economy, where it can take the form of an attitude. Because, in order to increase the human capital and keep the innovative economy in balance, it is necessary to enter into money and property relations. The author says that it is wrong to call the knowledge economy a form of economic relations by Y.VSmagin, because the knowledge economy is based on human behavior and capital. And it reflects a continuous process that is self-reproducing.

Empirical methods mainly consist of three stages:

- first of all, it is intended to conduct observation and experiment on the subject of research. This is done in the following order. Development and preparation of the experimental plan. Carrying out the experiment. It consists in transferring the results of the experiment from the preliminary processing.
-secondly, it is aimed at identifying the properties, characteristics, objective communication and relations specific to the object of research, dividing them into specific groups and categorizing them.
- thirdly, the nature of internal communication and relations between things and phenomena is determined and preliminary empirical generalizations are made.

We have a question, what kind of relationship? What do we mean by relationship specificity?

Studying relationships in the educational system (sociometry) is one of the challenges that educational institution psychologists face in creating a positive psychological climate in the pedagogical team or student groups of the educational institution they serve. To do this, they must first understand the characteristics of interpersonal relations in this group and study how the economy of knowledge affects the group.

In econometrics, we understand the relationship between economic processes resulting from experiments. The method of scientific induction is also used at the stage of empirical modeling of the economy of knowledge. This method is aimed at determining causal relationships and relationships specific to the object being studied. Generality of things, events, certain similarity, generalization of one or another side leads to the formation of an opinion. This is expressed in inductive conclusions. The results of the experiment are expressed in the form of scientific concepts, special terms or mathematical formulas. Their authenticity is verified by re-simulation experiments. The methods of analysis, synthesis, categorization and systematization are used here.

The results of observations and experiments carried out in the object of research are analyzed, their characteristic features and relationships are identified. Important and unimportant qualities are distinguished and on this basis they are put into a certain system, divided into categories.

When interpreting the results, it is necessary to connect the obtained data with preliminary assumptions, theoretical schemes and models, and already known scientific facts. This makes it possible to evaluate the novelty of the results, their compliance with certain theoretical concepts, and find a place for this topic in the field of research. Separately, it is necessary to discuss and find an explanation for the results that do not correspond to the initial theoretical assumptions.

Classification is an important aspect of scientific research in all fields. Categorization is an expression of interrelationships and relations between objects and phenomena of the objective world. Categorization is an important stage in the process of knowledge from objects, phenomena, external properties to essence, knowledge of laws. It expresses stable communication and relationships in events.

The most basic form of empirical methods is scientific evidence. Therefore, any scientific research begins with the collection, systematization and generalization of scientific evidence.

Scientific evidence (fact) from the point of view of empirical knowledge means:

a) a state observed in existence, any appearance of existence or awareness of it; In a broad sense, a Data Warehouse (MO) can be understood as a collection of data about concrete objects of the real world. But as the volume of data increases, solving these problems becomes more complicated. The problem is solved by structuring objects and data, that is, systematization. An object is something that exists and can be distinguished. There is a set of information about objects that can be a set of MOs.

b) proven knowledge about any phenomenon, process;

c) Empirical knowledge obtained in the process of observation and experimentation is implied.

Without deviating from the principles of pedagogical technology successfully used in the educational system of developed foreign countries, based on all the laws of the complex theory, taking into account the socio-pedagogical conditions in our Republic, based on the educational mentality of professors and pedagogues in the region, a modern Uzbek national model of pedagogic technology, which is understandable to the collective of pedagogues of our republic, was created.

The next task is to implement the national model of pedagogical technology in the educational process, to teach all types of classes of academic subjects based on the creation and design of business projects. is to apply to the learning process.

Theoretical aspects of the development of the knowledge economy in Uzbekistan and the essence of the development of human capital and the laws of its implementation. Sh.G.Akramova, D.I.Roziyeva, D.X.Shodiyeva[39,40,41] conducted research on issues of improving the personnel training system.

However, in the scientific research carried out to date, empirical research on the basis of complex specially directed simulation experiments dedicated to the deep research of the conditions, factors and priority directions of the development of the conceptual foundations of the knowledge economy in Uzbekistan has not been carried out sufficiently.

In essence, it is manifested through the creation of innovative products and services based on advanced ICT technologies, the creation of completely new simulation models [39] and advanced analytical methods. The use of advanced technologies in the process of economic knowledge and business education constitutes the digitization process[40].

In the article, the foreign experience of methodological approaches is studied within the framework of the topic, they were systematized and the aspects suitable for the demand of the economy of

knowledge and the national conditions were separately distinguished. A large-scale analysis of the economy of countries using the innovative education system will be conducted.

3. RESULTS AND DISCUSSION

Information systems, information resources, information technologies, and means of communication are developing in the environment of traditional educational technologies, even though some of the supporting systems are considered to be a set of technical, software, informational, organizational, and legal provisions.(Fig. 1).

Traditional pedagogical technologies include empirical and cognitive, interactive, heuristic, creative, adaptive and others. It is called pedagogical Technology

There are teaching methods that have passed the intended experience, are generally useful (effective), but do not meet the requirements of technology.

In most of the traditional pedagogical technologies used in practice, there is a call to intensify, activate, and sometimes "optimize" the educational process, but a pragmatic approach is a guaranteed achievement of the intended results in education, with a clear goal. not done.

In the educational system, we need to have reliable diagnosis, objective control and evaluation criteria of the student's knowledge; here it is important to know that it is not possible to achieve high technology in the educational system (the results of which do not need to be re-examined); it is for this reason that we are forced to monitor students' knowledge step by step (including rating and computer tests)[39].

Knowledge of economics forms the direction of public administration in socio-economic development of regions in the country. However, they cannot be limited to study, as they rely heavily on theories of regional economic growth. Digital technologies should replace paper in business education.

Investments in science and technology, human capital, including deep modernization of the national education system, will increase significantly.

In order to develop the digital economy in Uzbekistan in the future, the government set the task of developing the "Digital Uzbekistan-2030" program. In the program, the main principles, procedure, levels of sectors and regions, functions of the development of the digital economy were defined [1].

Within the framework of the "Digital Uzbekistan - 2030" strategy, 2020 - 2030 digital transformation of educational services of Kashkadarya region was determined.

The model of pedagogical innovation conditionally consists of "Collect", "Select", "Handle"[41]. will have opportunities to see, hear and think about animation elements during the lesson based on multimedia tools.

State educational standards have been developed, new curriculum has been put into practice, high demands are placed on educating a free and independent thinking person, pedagogical technologies are introduced into educational practice, psychological and pedagogical diagnostics in order to successfully send students to the profession. It is important to monitor and evaluate students' knowledge, skills, and abilities using the most effective forms, methods, and tools at a time when such situations are being implemented on a large scale in all types of educational institutions. On the basis of the educational and developmental goals of the training, it is envisaged to determine and form the reproductive training tasks, their didactic goals for each stage of the training.

The article uses methods of scientific abstraction, empirical, correlation-regression analysis. Summarizing our analysis, we consider the educational system as the upper stage of the imitation stage, a digital-informed society, its use in the field of production and educational services, the economy of information and knowledge (science, intellectual capital). Education was born as a result of this. This digital-informed society is based on the intensive and effective use of science, education and innovation aimed at accelerating economic growth. In general, the above opinions, that is, the development, characteristics and conditions of the knowledge economy can be expressed in a diagram as follows (Fig. 2).

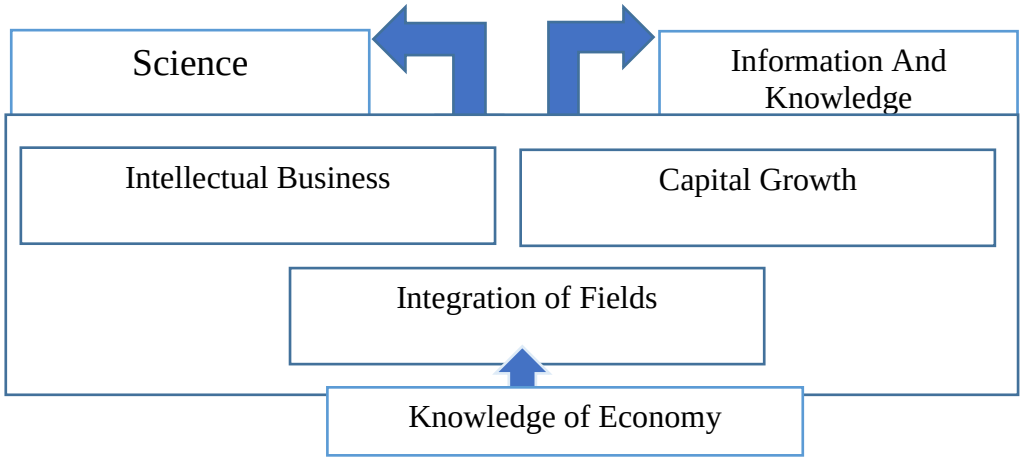

Figure 2. Integration of knowledge economy

It is clear from the picture that the knowledge economy is fundamentally different from previous economic systems. As a result of its development, the intellectual business process, capital growth, integration of various sectors and the level of competition in the world economy will increase.

Summarizing the above, the author defined the concept of "knowledge economy" as follows[49]: "Knowledge economy is a high level of education service, high technologies and high-quality education aimed at improving the quality of education based on the intellectual knowledge of the human population. is a system that provides services". This definition was able to combine the contradictions in the

definitions of the "knowledge economy" category given by different authors above. At the same time, in this definition, intellectual knowledge is taken as the main criterion for the development of the economy.

As the main criterion of development, the quality of educational services is empirically analyzed and national forecast indicators (models) are developed. Correlation-regression analysis of job loss trends in many occupations due to the widespread penetration of digital and artificial intelligence technologies and robotic machines into economic sectors and the social sphere, and the factors affecting these processes are determined (Table 1).

Table 1: Dynamics of the quality of educational services in Kashkadarya region

Years	**The quality of providing educational services to the population of the region Tox=y**	**The number of professors per thousand students of the region's population is JO's=x1**	**The number of PhD teachers per thousand students of the region's population PhD's=x2**	**The number of DSc prof teachers per thousand students of the region's population is DSc's=x3**	**The number of students in the province is JTc thousand. people JTc's=x4**
2004	3.9	679	264	28	10.4
2005	7.8	827	294	33	9.5
2006	11.9	852	309	39	8.4
2007	15.2	846	312	34	9.7
2008	18.9	890	330	31	11.7
2009	32.3	864	327	34	11.6
2010	39.3	826	331	30	11.4
2011	38.9	839	497	51	10.5
2012	46.2	858	295	27	11.2
2013	69.6	915	272	25	11.8
2014	89.8	984	263	23	12.6
2015	106.5	1044	259	25	13.3
2016	131.1	1086	254	28	14.1
2017	163.9	1154	269	28	15.9
2018	227.8	1196	288	34	18.1

2019	292.8	1404	253	45	22.4
2020	373.4	1555	255	47	27.8
2021	562.8	1502	256	49	28.2
2022	631.9	2502	256	49	28.2
2023	631.9	2805	359	75	48.282

We can see that the quality of education in Kashkadarya region increases when we conduct an empirical experiment using trend models of the quality of education services (Fig. 3).

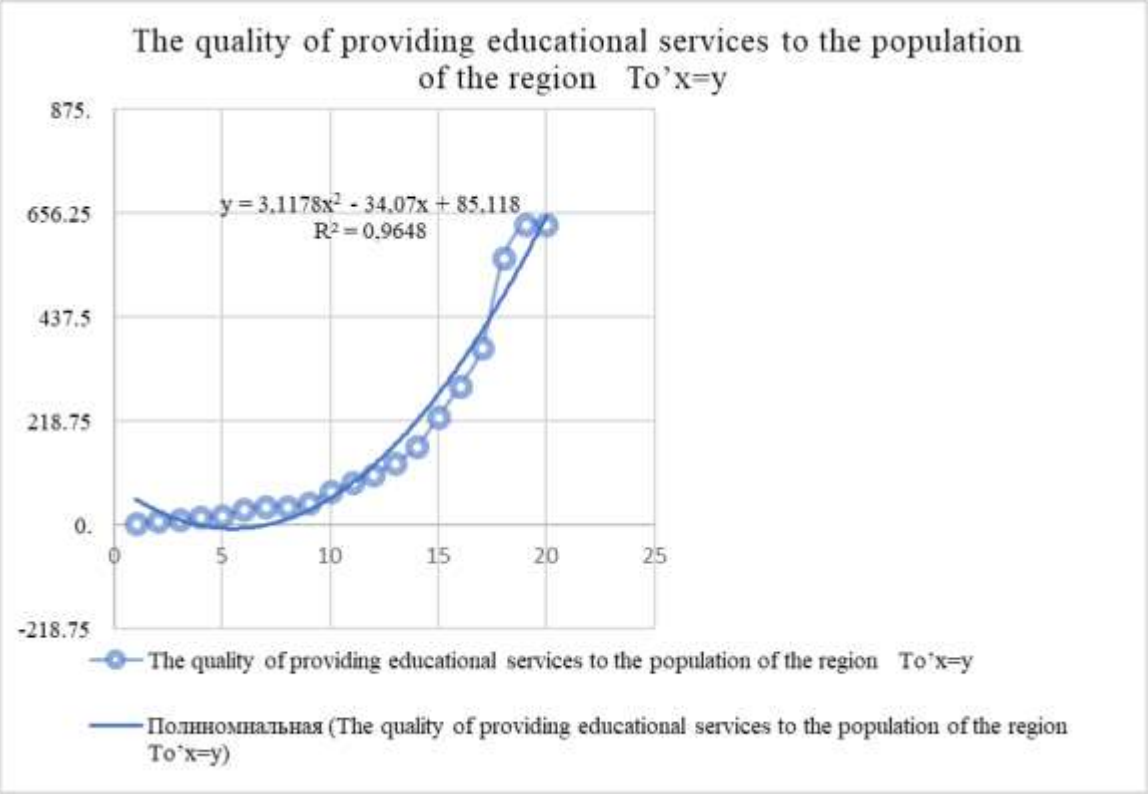

Figure. 3 The quality of providing educational services to the population of the region

Expected results, their scientific and social significance are seen in ensuring compliance of the programs planned in the higher education system with the research work of higher education institutions operating on a world scale.

4. CONCLUSIONS

To conclude, the development of the knowledge economy should be implemented in two stages. The first stage (2023-2025) is to conduct scientific research in this direction and to integrate all existing enterprises and economic entities in Uzbekistan. The Minister of Higher Education, Science, and Innovation of the Republic of Uzbekistan has also said that, in order to prepare higher education for the transition to this stage, the government has taken steps to increase the level of coverage of the country's youth with higher education, the admission rates to correspondence and evening education forms, and the share of professors and teachers who have advanced their qualifications or completed internships abroad. The government has also introduced distance education. These steps will help to ensure the integrity of

science and production.In the second stage (2025-2030) Minister of Higher Education, Science and Innovation of the Republic of UzbekistanLigi works in cooperation with qualified specialists in the field of information and communication technologies. As a result of the implementation of these two stages, not only the place and rating of Uzbekistan in the human development index, but also the global level of higher education will increase, a full transition to University 3.0 will be ensured, the economy production of innovative goods and services is achieved at the expense of personnel with intellectually high potential operating in the branches. The efficiency of human capital is of great importance in the transition of the economy to the path of innovative development and the development of the concept of the economy of knowledge in the republic. In some literature, under the influence of objective factors, that is, the introduction of innovative technologies, there are opinions that the level of economic development will increase with the attraction of foreign investors and the like. However, the author emphasizes that subjective factors (that is, the human factor) are also important in the formation of the knowledge economy.

REFERENCES

[1] O‘zbekiston Respublikasi Prezidentining 2020 yil 5 oktabrdagi PF-6079-son farmoni.

[2] Абу Райхон ал-Бируни. Избранные произведения в6 т. Т. 3. – 44-б.

[3] Петти У. Экономические и статистические работы. Т. I-II. Перевод под ред. Смит М.Н. Москва: Государственное социально-экономическое издательство, 1940. -с.. 323

[4] Рикардо Д. Начало политической экономии и налогообложения. - М.: Эксмо, 2016. 1040-стр.; Смит А. Исследование о природе и причинах богатства народов. – М.: Эксмо, 2016. -с. 255.

[5] Вальрас Л. Элементы чистой политической экономии. - М.: Изограф, 2000. -с. 448 (Éléments d’économie politique pure, 1874)

[6] Clark J.M. Preface to Social Economics. - New York: Farrar & Rinehart. P. 193

[7] Милль.Дж.С. Система логики. т.т. 1-2. -М., 1914. -с.880; Рошер У. «Система помощи бедным и политика борьбы с бедностью» (System der Armenpflege und Armenpolitik, 1894. -p. 345).

[8] Bell D. Notes on the Post-Industrial Society // The Public Interest. - 1967. №7;

[9] Гэлбрейт, Дж. К. Новое индустриальное общество // The New Industrial State (1967). 2004. -с. 608. ISBN 5-17-024777-X

[10] Balaji P. The transformation and structure of the high technology industrial complex. California: University of California, 1999

[11] Dretske Fred I. Knowledge and the flow of information. // Stanford: CSLI publ., Cop. 1999.

[12] Тоффлер, Э. Третья волна. The Third Wave, 1980. - М.: АСТ, 2010. -с. 784. (Philosophy). 5100 экз. ISBN 978-5-403-02493-8;

[13] Перру Ф. Экономическое пространство: теория и приложения // Пространственная экономика. № 2. 2007. -с.77-93.

[14] Махлуп Ф. Производство и распространение знаний в США. -М.: Прогресс, 1966. -с. 23;

[15] Беккер Г.С. Человеческое поведение: экономический подход. – М.: ГУ ВШЭ, 2003. -с. 672. ISBN 5-7598-0173-2;

[16] Shulz T.W. Human Capital: Policy Issues and Research Opportunities. – In: Human resources. N.Y., 1975. -p. 5.;

[17] Mincer J. Investment in Human Capital and Personal Income Distribution // Journal of Political Economy, Vol. 66, No. 4 (Aug., 1958), -p. 281-302;

[18] Стюарт Т. Интеллектуальный капитал. Новый источник богатства организаций. // Пер. с английского В.Ноздриной. - М.: Поколение, 2007. -с. 31.
[19] Мильнер Б. З. и др. Управление знаниями в корпорациях. -М.: Дело, 2006. -с. 144.
[20] Степанова Т. Е. Закономерности экономики, основанной на знаниях. – Самара: Изд-во Самар, гос. экон. акад., 2005. -с. 35-36.
[21] Ченцова М.В. Особенности формирования экономики знаний в современных условиях. Автореферат диссертации на соискание учёной степени кандидата экономических наук. – М., 2008. -с. 26.
[22] Шляхтин М.Ю. Структуризация интелектуального капитала в экономике знаний. Автореферат диссертации на соскание учёной степени кандидата экономических наук. – Ярославль, 2009. -с. 23;
[23] Ушанов Д.А. Иерхические и рыночные модели экономики знаний. Автореферат диссертации на соискание учёной степени кандидата экономических наук. – М., 2009. -с.25;
[24] Хайрулина Э.И. Информационная состовляющая экономики знаний. Автореферат диссертации на соискание учёной степени кандидата экономических наук. – Казань, 2007. -с.23;
[25] Муртазин А.С. Институциональные основы формирования экономики знаний в России. Автореферат диссертации на соискание учёной степени кандидата экономических наук. – Пенза, 2015. -с. 23.
[26] Шумпетер Й.А. Теория экономического развития. Капитализм, социализм и демократия.М.:Эксмо, 2007, 862 с.
[27] Howkins J. The Creative Economy: How People Make Money from Ideas. London: Penguin, 2001, 263 p.
[28] Benkler Y. The Wealth of Networks: How Social Production Transforms Markets and Freedom. New Haven,
[29] Conn: Yale University Press, 2006, 515 p.
[30] Tapscott D. The digital economy: promise and peril in the age of networked intelligence. New York; Montreal:
[31] McGraw-Hill, 1996, 342 p.
[32] Корчагин Ю.А. Современная экономика России. – Ростов-на-Дону: Феникс, 2008. -С. 69-75.;
[33] Корчагин Ю.А. Циклы развития человеческого капитала как драйверы инновационных волн. – Воронеж: ЦИРЭ, 2010. -С. 186-194.
[34] Смагин Ю.В. Экономика знаний и реальность. Метиор-Сити. Наука развития. № 4, 2016. -С. 39.
[35] G‘ulomov S.S. “2017-2021 yillarda xarakatlar strategiyasini sifatli amalga oshirishda intellektual salohiyat va innovatsiyalar roli” // Iqtisodiyot va ta’lim, 2018. 7-19-b.
[36] Usmonov B.SH. Oliy ta’limning innovatsion faoliyati va uning iqtisodiyot rivojlanishidagi o‘rni. // Iqtisodiyot va ta’lim, 2018. 9-b.
[37] Абдурахмонов К.Х., Зокирова Н.К. Человеческое развитие: Учебник. – Т.: ФГБОУ ВПО «РЭУ им.Г.В.Плеханова», 2014. -с.320
[38] Мадалиев А.А. Иқтисодиётни бошқаришда инсон омилини фаоллаштиришнинг ташкилий-иқтисодий механизмидан фойдаланишни такомиллаштириш. Иқтисодиёт фанлари бўйича фалсафа доктори (PhD) олиш учун ёзилган диссертация автореферати. – Т., 2017. -28 б.

[39] Пўлатов М.Э. Интеллектуал капитал ҳисоби ва аудити методологиясини такомиллаштириш. Иқтисодиёт фанлари доктори илмий даражасини олиш учун ёзилган диссертация автореферати. – Т., 2017. -38 б.;
[40] Raxmonov D.A. O‘zbekistonda ijtimoiy sohani moliyalashtirishning metodologik asoslarini takomillashtirish. Iqtisodiyot fanlari doktori olish uchun yozilgan dissertatsiya avtoreferati. – T., 2018. -36 b.
[41] Akramova Sh.G. O‘zbekistonda innavatsion iqtisodiyot shakllanishi sharoitida inson kapitalining rivojlanishi. Monografiya. – T.: Iqtisod-moliya, 2014. -180 b.
[42] Ro‘ziyeva D.I. Venchurli tadbirkorlik - kichik biznes subyektlari innovatsion salohiyatini oshiruvchi dastak sifatida. // “Iqtisodiyot va innovatsion texnologiyalar” ilmiy elektron jurnali. –T.: 2020. №2, 126-134 b.
[43] Shodiyeva D.X. Milliy iqtisodiyotning innovatsion rivojlanishini investitsiyalashning nazariy asoslarini takomillashtirish. Iqtisodiyot fanlari bo‘yicha falsafa doktori (PhD) ilmiy darajasini olish uchun yozilgan dissertatsiya avtoreferati. – T., 2020. -58 b.
[44] Muxitdinov.X.S., Rahimov A.N., Muxitdinov.SH.X. Aholiga xizmat ko‘rsatish tarmoqlarini imitatsion modellashtirish “Iqtisodiyot va ta’lim” ilmiy-amaliy jurnal №3 Toshkent-2020. –B.151-153
[45] Mukhitdinov.X.S, Rahimov A.N., Mukhitdinov.Sh.X. The forecast for the development of the public services sector.
[46] http://solidstatetechnology.us/index.php/JSST/article/view/8013/ Solid state technology / Indexed by Scopus.
[47] O’qituvchilarning zamonaviy axborot-kommunikatsiya texnologiyalar bo’yicha kompetentligi muammo va echimlar” Vazirlik tizimidagi oliy ta’lim va ilmiy-tadqiqot muassasalari miqyosida ilmiy-amaliy anjuman materiallari// T-2012y 133 bet
[48] Ta’limda innavasion texnologiyalar// Toshkent-2008y
[49] Hoshimov K., Nishonova S., Inomova M., Hasanov R., Pedagogika tarixi. Toshkent, 1996. – 102 b.
[50] Хайруллаев М. Философское наследие народов Средней Азии и борьба идей. –Фаргона, 1988. – 39-б
[51] Бэкон Ф. Новый органон. – М.: Наука, 1992. – С. 113
[52] Лебедев С.А. Методология научного познания. М.: “Проспект”, 2015. – С.