

## INVESTING IN HUMAN CAPITAL AND ASSIMILATION OF ECONOMIC DEVELOPMENT

---

**Aida GULIYEVA,**

Doct. Sci. (Econ.), Associate Professor,  
Azerbaijan State University of Economics,  
Baku, Azerbaijan,  
e-mail: aida.guliyeva@sabah.edu.az;

**Natalya CHUNIKHINA,**

Cand. Sci. (Sociology), Associate Professor,  
Tyumen Industrial University,  
Tyumen, Russia,  
e-mail: nv.1406@rambler.ru;

**Aysel GULIYEVA,**

Assistant Professor,  
Azerbaijan State University of Economics,  
Baku, Azerbaijan,  
e-mail: aysel.guliyeva10@gmail.com;

**Aygun ABDULOVA,**

Assistant Professor,  
Azerbaijan State University of Economics,  
Baku, Azerbaijan,  
e-mail: sabah.aygun2015@gmail.com

---

**Citation:** Guliyeva, A., Chunikhina, N., Guliyeva, A., and Abdulova, A. (2019). Investing in human capital and assimilation of economic development. *Terra Economicus*, 17(1), 64–76. DOI: 10.23683/2073-6606-2019-17-1-64-76

*Our paper focuses on the main directions of human economic development. We consider such questions as interrelation of the theory and concept of the human capital, concept of human development, its influence on economy, etc. It is noted that the economic growth and growth of a standard of living is possible only in those countries where the government protects interests of the citizens, makes and puts into practice social programs, carries out reforms in education and health care. New and extensive employment has been created in connection with the collection and analysis of information in the field of electronic technology, telecommunications, political, social and economic life. In other words, human capital has become a key factor in the development of information technologies and cannot imagine the modern information economy without them. Formation of personnel training system for the use of information technologies in all spheres has become a serious problem. Transition to the information economy requires the creation of a broad mass*

*of the population to use information and telecommunication technologies, including high-speed Internet resources.*

**Keywords:** *human capital; economic development; state support; growth*

**JEL classifications:** *J08, J24, O10*

## **ИНВЕСТИРОВАНИЕ В ЧЕЛОВЕЧЕСКИЙ КАПИТАЛ И СОДЕЙСТВИЕ ЭКОНОМИЧЕСКОМУ РАЗВИТИЮ**

**Аида ГУЛИЕВА,**

доктор экономических наук, доцент,  
Азербайджанский Государственный Экономический Университет,  
г. Баку, Азербайджан,  
e-mail: aida.guliyeva@sabah.edu.az;

**Наталья ЧУНИХИНА,**

кандидат социологических наук, доцент,  
Тюменский индустриальный университет,  
г. Тюмень, Россия,  
e-mail: nv.1406@rambler.ru;

**Айсель ГУЛИЕВА,**

преподаватель,  
Азербайджанский Государственный Экономический Университет,  
г. Баку, Азербайджан,  
e-mail: aysel.guliyeva10@gmail.com;

**Айгун АБДУЛОВА,**

преподаватель,  
Азербайджанский Государственный Экономический Университет,  
г. Баку, Азербайджан,  
e-mail: sabah.aygun2015@gmail.com

**Цитирование:** Гулиева, А., Чунихина, Н., Гулиева, А., Абдулова, А. (2019). Инвестирование в человеческий капитал и содействие экономическому развитию // *Terra Economicus*, 17(1), 64–76. DOI: 10.23683/2073-6606-2019-17-1-64-76

*Наша статья посвящена основным направлениям экономического развития человека. Мы рассматриваем такие вопросы, как взаимосвязь теории и концепции человеческого капитала, концепции человеческого развития, его влияния на экономику и т.д. Отмечается, что экономический рост и рост уровня жизни возможны только в тех странах, где Правительство защищает интересы граждан, разрабатывает и реализует социальные программы, проводит реформы в сфере образования и здравоохранения. Новые и широкие возможности были созданы в связи со сбором и анализом информации в области электронных технологий, телекоммуникаций, политической, социальной и экономической жизни. Другими словами, человеческий капитал стал ключевым фактором развития информационных технологий и не может представить*

*современную информационную экономику без них. Формирование системы подготовки кадров для использования информационных технологий во всех сферах стало серьезной проблемой. Переход к информационной экономике требует создания широких масс населения для использования информационных и телекоммуникационных технологий, в том числе высокоскоростных интернет-ресурсов.*

**Ключевые слова:** *человеческий капитал; экономическое развитие; государственная поддержка; рост*

### **Introduction**

The modern public recycling system can be characterized as an innovation recycling system, and the basis of this system is scientific knowledge, information technology, services and products. Traditional resources and resources are now exhausted, and economic growth is increasingly at the expense of more information sources and resources. Rapid, incremental growth and differentiation of the demands of all information economy subjects raises the need for content and presentation of knowledge in the context of global transformation and regional processes (Fursov et al., 2018). Significant changes in the economic environment as a major trend stimulate the wider use of information and telecommunication technologies. Informatization becomes the main factor of development of the economic system. It should be noted that the information economy, in which more than 50% of gross domestic product (GDP) is provided in the field of production, processing, protection and dissemination of information and knowledge, and more than half (50%) of able-bodied population participate in this activity his economy is understood. The term “information economy” was first introduced to the scientific circulation by the American scientist Marc Porat in the mid-1970s (Porat, 1978). In his view, information technology reflects the core content of the new society: key production resources and public wealth Information society problems, such as information and knowledge

According to the United Nations Trade and Development Commission’s statistical data, the information economy has become a reality in many countries around the world. According to the Commission’s estimates, the total labor force involved in the production of ICT products is around 40–70% of the workers in these countries and the labor market. According to Nordic Council of Ministers, Finland, Sweden and Norway are also mentioned as countries where information economy is established (Grunfelder, Rispling & Norlén, 2018).

Significant changes have been made in the structure, function and flow of information, as well as the forms and methods of information analysis, the presentation and use of information. In the structure of the modern economy, a serious information sector has emerged, and its structure includes the following spheres: production of knowledge and innovations; scientific research and research; dissemination of information and communication; analysis and transmission of information; advertising; surveys and library materials; insurance related areas; financial, consulting services, as well as public administration organizations (Berduygina et al., 2017).

It should be noted that human capital concept is the first specific term in the information society for the first time from the historical point of view. The human capital theory is a milestone in the development of imaginations related to the role of a person in the economy. The importance of human resources in organizing economic activities here is particularly valued.

One can speak about economics in two aspects: as a consumer and producer. Such approach to information economy is inaccurate and ineffective. Unlike the content in the

societies of labor, leisure, work, entertainment, industrial and, in particular, industrial societies, it is somewhat ridiculous.

The content of the work and the demand for people, the methods of labor organization, approaches to education have changed (Stojanov et al., 2011; Strelkowski et al., 2016). More and more user definitions are used, and this concept is usually used as a computer-related word combination. This term also applies to children playing with computer games and with people who work on computers in exchange for the service. For example, accountants preparing for the balance sheet of an entity. In the first sense, the conception is consumed by the consumer, and in the second sense, as a means of production. However, in both cases the person using the computer is intended. Unlike non-industrial society, the user in the information society does not divide people into occupations. A general term for all specialties is considered.

### **Technology, human capital, and economic development**

The mastering of high technologies and the development of the information economy lead to significant changes in the organization, management, staffing and education. New and extensive employment has been created in connection with the collection and analysis of information in the field of electronic technology, telecommunications, political, social and economic life. In other words, human capital has become a key factor in the development of information technologies and cannot imagine the modern information economy without them. Formation of personnel training system for the use of information technologies in all spheres has become a serious problem. Transition to the information economy requires the creation of a broad mass of the population to use information and telecommunication technologies, including high-speed Internet resources. In the modern era, the management of information resources has gained special importance in terms of the efficient organization of the economic systems. Here, information and knowledge are understood to be significant and rare resource, resource resources, or economic potential (Jiroudková et al., 2015).

Thus, collecting, storing and analyzing information along with material resources is carried out by a person with a high level of education, scientific and special training. Accordingly, the role of a highly educated and educated person in modern times is not only related to the collection of information, but also to the generalization, analysis and creation of new scientific knowledge. For this reason, the interest in human creativity and the activation of these capacities in the science of economy has increased considerably. From the point of view of economic theory, these are the main criterion for evaluating events in society. The human being stands at the center of the socio-economic system as a producer and consumer. As a result, the importance of raising the role of education in the reproduction of human creative qualities in other areas is understood. In this regard, the development of the category of “human capital” for the evaluation of the market economy from a single position promises great opportunities. With regard to the above, Šlaus and Jacobs (2011) note that factories, equipment, production resources are based on the bases of economic growth and efficiency of human capital competitiveness.

At the post-industrial level of society’s development, productive forces of human beings are realized in the form of human capital. Human capital is a form of investment and man-made education, special knowledge, skills and abilities, which leads to an increase in the employee’s qualifications, is used in one or another of public recycling, affects the labor productivity and the quality of labor. According to some estimates, it includes the level of health of the economic entity and the costs involved in the search for information related to the employee in the labor market. In the information economy, man is not simply a “economic person.” Man has a complex economic role and functions in society. All of this identifies a person’s rational behavior in a market-driven industrial economy, and acts in the information society as a decisive and essential information resource in the personality. Production capacities complexes and human needs are characteristic of the

initial stage of the postindustrial society and all of these are present in the form of human capital, gradually transforming into complex creative information abilities and needs. All of these are typical for countries where information economy dominates and acts as a human resource. Intelligence of the economic environment, new scientific knowledge, innovation business, informatization, acquisition of information resources is characteristic for high efficiency level and competitive market economy (see e.g. Abrham et al., 2015). This or another form of farming sets out the existence of a particular economic entity by putting different and ever-growing demands on people.

In the information economy, human beings should practically learn all their lives. Accordingly, continuous education system, adapting to the rapidly changing information system, and increasing the level of education and qualifications are required.

The emergence of personal computers, modem communication systems, and other modern communication systems makes it possible for people to utilize significant scientific knowledge. The main role in the economy mentioned above belongs to man. Processes all its results stimulate the education of people, and management is at the forefront. Personality is more important than organizations, new workers are formed. In this connection, in developed countries practically transforms social, intra-company, organizational and other structures. Very clearly, people are divided into sections according to their educational level. The process of formation of a new structure of human capital is being developed in the present time - the term “brain-worker” refers to an employee who is a specialist in high-tech sphere. The emergence of a new type of specialist is characteristic of the field of science and technology professionals. The new type of system professionals are designers, planners, engineers, and managers, whereas all these capabilities have been concentrated in a somewhat rugged human body. In other words, the specialization in modern occupations is gradually deepening. The reason for this is the increase in the quality of fundamental scientific bases of specialist training, the breadth of the outlook, the high professionalism and profound knowledge of the chosen field of expertise.

### **Measures of scientific productivity**

The right approach to information society is objective process. In the course of the process, besides the world commodity markets interacting with one another, information, knowledge, capital and labor market, i.e. new economic space, are formed and developed. The process has the following key components:

- formation of information and communication infrastructure and its basics;
- telecommunication networks and systems;
- development of computing techniques, software, information and computer technologies;
- process of informatization will increase the coverage of the use of information more and more;
- formation of an appropriate infrastructure for information, computer, communication technologies and effective reimbursement of socio-economic, political and cultural needs of society, state, organizations and citizens.

One of the main directions of the information economy is informing the system of general and special education system, then the professional development of specialists. Another important direction is raising the role of significant creative abilities of specialization, professionalism and human potential.

The solution of all above-mentioned tasks has led to the formation of a new generation in line with the level and lifestyle of the information society. The new generation has the ability to live and work in the information world to meet their needs. In this process, cultural information centers, electronic libraries and internet play a significant role. It should be noted that modernization of education in the country is very important in the state information programs.

Thus, the Ministry of Education of the Republic of Azerbaijan (2019) made a number of important steps in this area, which was reflected in the following activities in 2013:

- improvement of material and technical base of information and communication systems of educational institutions, improvement of computer equipment and other necessary digital equipment supply (3707 desktop computers, 4853 laptops, 1976 projectors and 2600 interactive whiteboards were distributed to the educational institutions of the Republic and subordinated to the educational institutions and the Ministry of Education of the Republic of Azerbaijan to provide educational institutions with ICT equipment);
- with the development of remote education of children in need of special care, teachers and pupils were provided with 31 Traxus Roller Plus Joysticks, 30 Headphones Microsoft LifeChat, 100 Earring A4TECH and 100 Wacom Bamboo Pen tablets;
- equipped with equipment for increasing the speed of connection of the Information and Resource Center to the Azerbaijan Education Network from 1 Gb/s to 10 Gb/s;
- improvement of technical control and support system for ICT equipment at educational institutions;
- technical support to educational institutions participating in the “Electronic school” project;
- technical support services provided to 366 educational institutions in Baku and Absheron;
- necessary services have been provided to maintain network equipment in educational institutions through CSCO SMART net Service;
- technical Support Services provided by the Education Information System Department for maintenance of all servers, network equipment, infrastructure, auxiliary systems, as well as equipment of the Hot Line, Network Management and Private Security Center for 24 hours x 7 days;
- in the Hotline 146, over 2,000 calls were received in 2013, corresponding technical support services were provided to the educational institutions and provided with necessary parts;
- technical support services for continuous maintenance of network equipment and software installed at 32 educational institutions within the framework of the “Electronic school” project;
- support for the National Education Portal has always been updated;
- information and Resource Center Supports Electronic Document Support and Consulting Services;
- development of intranet services and access to the Internet: 70 educational institutions have been added to the Azerbaijan Education Network (Intranet and the Internet), 1695 educational institutions, which have been connected by 2013, have been regularly provided with Intranet and Internet access.

In the information society, human personality is increasingly becoming a carrier of human capital, and instead of being a carrier of human information resources, this factor highlights the high dynamism of social and high-speed economic growth in society (Litau, 2018).

Successful formation of the information society depends primarily on information and knowledge, the formation and development of a new economy based on modern technologies and innovations, including the information economy. The peculiarities of the information economy are basically the following aspects:

- knowledge and knowledge are the production factor and core resource;
- wide application of information technologies in manufacturing and non-heat industries;
- loss of material generated (dematerialization);
- changing the nature and structure of the work;
- the global economy of the new economy and so on.

Technological innovations play a very important role in the formation of a new economy. In particular, the development of information communication technologies (ICT) is a prerequisite for the formation and development of the information society and the corresponding economy, including the innovative information economy. The development of ICT ensures fairness of information, new communication tools, organization of production processes and the efficiency of many economic activities. Information and communication systems accelerate globalization of the economy by linking international markets and global production networks.

Today, ICT becomes the leading force of economic growth. Its impact on economic development is in two ways. First of all, the production of ICT goods and services is one of the most innovative and dynamic economies of the economy and makes a significant contribution to economic growth. Secondly, the application of ICT in economic and other spheres promotes innovative development, enhances labor productivity, reduces costs, creates new spheres of economic activity and improves the living conditions. Furthermore, Atkinson and McKee (2007) noted the following mechanisms of ICT use on socio-economic development:

- increased labor productivity both at macro and micro level – along with increased labor productivity of individual employees, both capital and natural more efficient use of resources is possible;
- indirect stimulation of growth leads to the expansion of markets and the improvement of management quality;
- increased number of jobs and improvement of the economy;
- improved production and distribution of products and services, and reducing the cost of delivering the product to consumers;
- rising quality of goods and services and mass stratification;
- expansion of innovations.

The following mechanisms of the impact of ICT on economic growth have been proposed by experts from the London School of Economics (Khokhlov and Shaposhnik, 2012):

- elimination of geographical barriers hindering mutual relations between counterparties;
- increasing the role of network effects in the capture of markets;
- creating new access to products, reducing consumer transaction costs and so forth. change of dependent consumption forms;
- increased competition at the expense of access to local markets from other regions and countries;
- increasing the competitiveness of transnational corporations compared to domestic corporations.

The innovation-based ICT sector has now become one of the largest segments of the global economy. Thus, the ICT sector itself has a high productivity and its growth has a profound effect on the entire economy.

According to IIS (2019), the ICT sector research as well as the ICT market in 2011 amounted to 6.1% of the world's GDP. According to the McKinsey consulting company, its share in the global GDP can reach 9% by 2020 (Khokhlov and Shaposhnik, 2012). The problem of information society, the increasing role of ICT as an economic factor in developed countries is due to structural changes in the economy. These changes are characterized by the decline in the share of those engaged in the economic sector, and the increase in the share of those working in the sectors related to the creation, processing and consumption of information. According to recent data, the contribution of the ICT sector to GDP in the United States was 6.4%, and Japan 6.8% (Khokhlov and Shaposhnik, 2012).

The spread of information in other spheres of the economy, in principle, changes their character. Information technology enhances the utilization of resources. This is reflected in the increase of productivity, including GDP growth. ICT collects, processes, maintains, transmits, transmits, maintains information and knowledge. creates new opportunities.

ICT has a strong impact on the real economy through the production and application of ICT in various fields. This is explained by the fact that, with the development of the service sector, the ICT sector has become a global area of necessity. The ICT production sector is crucial to GDP growth in the real economy and features such as rapid technological advancement, strong and sustainable demand, relatively low prices, improved quality and product variability increase the share of the sector in GDP (Erdil et al., 2009).

The development of the ICT sector in many Southeast Asian countries, including Singapore, Malaysia, Japan, China, and South Korea, has exceptional expertise. These are processors, hard drives, motherboards, personal computers, laptops, and so on. play an important role in the production and export of various ICT products. At the same time, ICT creates additional opportunities and conditions for increasing labor productivity in all areas of application, its more efficient use, as well as the increase in physical capital.

Interaction with information and knowledge resources with traditional production factors Historical stages of economic development are closely linked with the replacement of technological production methods. In modern conditions, the technology of production based on information technologies is formed, where the main driving forces of development are information and knowledge.

### **ICT and human capital**

Information and knowledge have always played an important role in the development of human society. But in the information society, the role of information and knowledge has increased so much that they have a decisive role in the production process. Information and knowledge resources have the ability to substitute traditional production factors with a relatively low demand for material resources. Still, as early as 1987, former United States finance minister Michael Blumenthal noted that modern economic information was interpreted as a key resource, meaning labor, capital, and labor (see Blumenthal, 1987). Some would remark that knowledge and its practical application methods would replace the work as an additional source of income. However, the decline in the role of traditional production factors does not mean the decline in production of material benefits in the modern society. While the main production factor in agrarian society is land, the role of land as a production factor compared to capital and entrepreneurship in industrial society has diminished. In the information economy, knowledge capital is substituted. Capital invested in material resources does not disappear but replaces it with human capital.

It should be noted that the role of land factor in the industrial economy, as well as labor and material resources in the new economy, is essential. In this sense, knowledge and knowledge play a decisive role in the information economy as well as the labor and capital resources in the industrial economy. Traditional production factors remain the material development base for the new social-economic processes of the information society.

At present, economic growth is ensured through the use of information sources and resources. Information and knowledge contribute to more efficient use of production factors.

The reason why information and knowledge resources are not an independent resource is that they do not have the ability to completely replace material, energy, and labor resources (Lisin et al., 2015; Lisin et al., 2016; Newbery et al., 2018; Lisin et al., 2018). Thus, information economy problems, as well as information and knowledge alone, are only potentially significant resources and can only be attributed to the production factor when they are related to other resources.

Information resources, along with general features of economic resources, have a number of unique features deriving from the specific characteristics of information (Yusupov, 2009):

- information is inexhaustible, it does not disappear in the process of use, it is easy to replicate and spread;
- information is not a resale product. The application of information will reduce the consumption of other resources and less.



Thus, information and knowledge in the information economy do not only affect the efficiency of traditional production factors, but also act as an independent production factor. At the same time, unlike conventional production factors, information and knowledge resources allow preventing economic disasters and accidents and ensuring sustainable economic development (Kalyugina et al., 2015).

There are various ways to calculate the volume of services market. According to the 2015 forecasts, revenues from payment for Information Communications, Software and Software will be around \$43-94 billion. This is provided that taxation would be optimal and without any issues like the ones arising with the tax evasion problems that some countries are notorious for (see e.g. Čábelková and Strielkowski, 2013; or Strielkowski and Čábelková, 2015). All this includes web page extensions and various cloud technologies that users do not pay for these services. In modern times, revenue from free cloud services is much higher than the paid cloud services in the mass market. Revenues from private services are expected to be around \$ 5-50 billion. Differences in estimates are related to assessment based on different methodologies. The use of cloud technologies in the next few years will rapidly (UNCTAD, 2013). Nevertheless, these figures are significantly lower than the indicators in the global ICT sector. According to the 2011 estimates, it would cost \$4 trillion. However, cloud technologies cover some or all of the ICT sectors. Increasing demand for broadband internet services will boost revenue from telecommunication services. The demand for services above will also increase the demand for computer and network equipment (UNCTAD, 2013).

We consider that human capital is a vast concept of intellectual capital in its wider sense as part of its core content. All this can be considered as the main source of innovation and information economy development. The idea is also confirmed by a number of indicators. Here, the topic is investment, intellectual capital, and the growth of intellectual and capital-based professions, technology and other intellectual capital markets. The expansion of the development of human capital theory requires that it be considered beyond the theory of production. Production and consumption are the phases of the recycling of human capital. Students are formed in recycling, consumed. Production capacities are formed on consumption and used in production. Thus, the key role in the recycling process is the motivation of the interconnection of the abilities and needs among economic entities, along with other social factors.

All of this finds its expression in the lifetime of individuals, in continuous education and intellectual activity. As a result, processes are transformed into phases of a single recycling process. In terms of information economy, a number of human capital provisions should be revised to review human capital.

First, it is a matter of direct sustainability and the quality of knowledge and skills acquired in connection with the continuity of education. These provisions still remain in the industrial economy from the theoretical and practical point of view (Sudova, 2001: 105–113). In recent years, the educational process, which covers a wide range of specializations, is more predominant than the fact that specialists are trained in a specific destination. At present, it is difficult to predict the direction of changes in technology and economy. Here, priority is given to the acquisition of skills and abilities to achieve a broad range of goals.

Second, these provisions are the official position of the formal education system on human capital development.

The content of the business-concept in the information economy has changed, and actually the idea of the nature of labor in educational institutions and businesses has been renewed. In traditional approaches, production problems were considered as a general educational problem. But such an approach does not justify itself in modern conditions. Many types of jobs change so quickly that the curriculum and programs at the end of the study period are outdated.

Third, the behavior of a person who invests in education can be considered rational. The nature of the work in the information economy and the development of the content,

the organization of the continuous education process are primarily related to the harmonization of material and spiritual motives and the changing motivation mechanism. We can conclude that the process of human capital theory development continues. Formation and development of human capital are explored in various aspects. One can see that services in the modern information economy (e.g. travel, finance, tourism, etc.) require fast and accurate calculations from people and regulation of electronic information (Chiabai et al., 2014).

However, it should be noted that, in countries that prefer material capital, the level of human capital is neglected, and in these countries, it will soon be clear that the income from material capital is at a much lower level than expected. Finally, investment in people is important for technical progress. Because all this becomes a driving force of economic growth when it is a union with human capital. It will not be possible to improve production techniques if buyers, employees, consumers do not have enough knowledge and skills and educational levels to use new technologies.

### **Conclusions and discussions**

Apparently, the formation of the information economy will take place through the formation of human capital, adapted to technical achievements. That is, we are talking about elementary knowledge of information communication (ICT) sphere.

In turn, the development of ICT in the modern information society affects the development of human potential. But this issue is not paid attention. It should one of the central places in the world economy and culture, and in many cases, it serves the purpose of achieving sustainable development. Thus, strong market relations should be reconciled with human values for the development of state policy and strategy. Given the impact of ICT on the human development, it should be noted that the ICT dissemination and high-tech economy need to be provided with highly skilled workforce.

In the context of information economy, the role of creative intelligence plays a significant role in the creation of national wealth. One of the main features of a creative person is the non-material motivation structure. In this structure, the dominance concerns motivation and realization. They believe that the creative potential of society can be estimated by defining the non-material motivation of the population. These people's activities are not limited to one type of activity. Many of them express their own interests, not the maximization of personal wealth, but rather the development of their intellect. There is famine in the modern labor market of information technology. The emergence of new technologies raises the demand for new professions and demands for a number of new qualified cadres already exist (software providers, system administrators, moderators). Obtaining new vocational skills requires a certain amount of time. Naturally, the demand in the labor market will be higher than the demand.

As a consequence of the above processes, constantly increasing labor creativity drives people from outdated technology to new areas; the gradual increase in the volume of information will lead to the creation of a technical economic parity. Conditions to consider and adhere to worldwide commercial activities are increasing day by day. Intellectual labor has gained a distinct, creative trait. All this was made possible by the justification of the intellectual and spiritual capabilities of the worker to create new scientific knowledge, original products and services, and to produce products and services of science.

Information and information technologies have a long-term impact on the labor market, and the structure of labor force changes. Post-industrial economy has become a sphere of attraction and retention of highly qualified personnel in national economies. Thus, in the postindustrial economy, in other words, the requirements for the quality of human capital in the information economy are essentially changed. At the same time, the existence of the industrial and post-industrial sectors of the economy activates their uncertainty, accordingly different assessment criteria are developed, and rational use methods are formed. One more interesting fact is that in the new economy, the em-

ployee who acts as the main element of intellectual capital, carrier, gains new qualities. These qualities are:

- high motivation for higher education and employee retirement;
- base habits (ability to work with information, computer literacy);
- ability to organize communication (ability to submit and receive ideas);
- adaptation skills (creativity, problem solving and resolution);
- self-improvement ability (motivation, goal setting, individual development);
- group Effectiveness (ability to communicate between personalities, ability to negotiate and teamwork);
- ability to influence others (Organizational Efficiency and Leadership).

A new concept in the context of presenting and implementing human capital has entered the modern economic lexicon in modern times. Here we are talking about “e-commerce”. Moreover, there is “e-commerce” which is a development of a technology with identification and provision of identity requirements. The main principle of the market is the principle of personality development of the state, enterprise and the collective. Personal achievement is the criterion for the development level (Litau, 2017).

Based on all the above-mentioned ideas, it would be important to note that one of the rapidly developing fields of modern economics can be considered as a section of the theory of human capital. The human capital theory is studied in several systems in the economics sciences. For example, human capital management is the only subject of the labor economics problem, as a subject and object of research in economic theory, international economics and economics. At the same time, human capital theory has gained the status of an analytical platform for scientific assessments in the economics sciences system. In the theory of human capital, research programs have progressive content, serious and significant scientific works have emerged in this regard in the world economic thought. Changes in the production capacities of the human capital theory have been reflected in the agile. These changes have taken place in the economically developed countries of the world since the second half of the twentieth century and are increasingly expanding. Sometimes it is an attempt to apply to third world countries, even if it fails.

In the economic literature, it would be necessary to conduct research in terms of values and methodology of human capital theory. During the research, the following specific features should be considered in our approach. First of all, there should be found a dialectical materialist approach to the formation and development of human capital (the processes taking place in the context of the evolution of historical-economic relations). Second, there is a finding that human capital should be investigated in the context of the analysis of certain public economic relations in the realities of Azerbaijan, as a category of public economic activity. Third, we think that specific features of the content and types of human capital in the republic and the concrete economic and historical content of human capital should be assessed.

#### **REFERENCES**

- Abrham, J., Strielkowski, W., Vošta, M., and Šlajs, J. (2015). Factors that influence the competitiveness of Czech rural SMEs // *Agricultural Economics-Zemедelska Ekonomika*, 61(10), 450–460. <https://doi.org/10.17221/63/2015-AGRICECON>.
- Atkinson, R., and McKay, A. (2007). *Digital Prosperity: Understanding the Economic Benefits of the Information Technology Revolution* (SSRN Papers) ([https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1004516](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1004516)).
- Berduygina, O. N., Vlasov, A. I., and Kuzmin, E. A. (2017). Investment capacity of the economy during the implementation of projects of public-private partnership // *Investment Management and Financial Innovations*, 14(3), 189–198. [http://doi.org/10.21511/imfi.14\(3-1\).2017.03](http://doi.org/10.21511/imfi.14(3-1).2017.03)

Blumenthal, W. M. (1987). The world economy and technological change // *Foreign Affairs*, 66(3), 529–550. <https://doi.org/10.2307/20043465>

Čábelková, I., and Strielkowski, W. (2013). Is the level of taxation a product of culture? A cultural economics approach // *Society and Economy*, 35(4), 513–529. <https://doi.org/10.1556/SocEc.2013.0007>

Chiabai, A., Platt, S., and Strielkowski, W. (2014). Eliciting users' preferences for cultural heritage and tourism-related e-services: a tale of three European cities // *Tourism Economics*, 20(2), 263–277. <https://doi.org/10.5367/te.2013.0290>

Erdil, E., Turkcan, B., and Yetkiner, I. H. (2009). *Does Information and Communication Technologies Sustain Economic Growth? The Underdeveloped and Developing Countries Case* (IUE Department of Economics WP0901) (<http://eco.ieu.edu.tr/wpcontent/wp0901.pdf>).

Fursov, V., Krivokora, E., and Strielkowski, W. (2018). Regional aspects of labor potential assessment in modern Russia // *Terra Economicus*, 16(4), 95–115. <https://doi.org/10.23683/2073-6606-2018-16-4-95-115>

Grunfelder, J., Rispling, L., and Norlén, G. (Eds.) (2018). *State of the Nordic Region 2018. Theme 3: Economy*. Nordic Council of Ministers (<https://norden.diva-portal.org/smash/get/diva2:1180272/FULLTEXT01.pdf>).

IIS (2019). *ICT Competitiveness as the factor of the socio-economic development of Russia* (Executive Summary) ([http://www.iis.ru/docs/e-Competences\\_Executive\\_Summary.pdf](http://www.iis.ru/docs/e-Competences_Executive_Summary.pdf)).

Jiroudková, A., Rovná, L. A., Strielkowski, W., and Šlosarčík, I. (2015). EU Accession, Transition and Further Integration for the Countries of Central and Eastern Europe // *Economics and Sociology*, 8(2), 11–25. <https://doi.org/10.14254/2071-789X.2015/8-2/1>

Kalyugina, S., Strielkowski, W., Ushvitsky, L., and Astachova, E. (2015). Sustainable and secure development: facet of personal financial issues // *Journal of Security & Sustainability Issues*, 5(2), 297–304. [https://doi.org/10.9770/jssi.2015.5.2\(14\)](https://doi.org/10.9770/jssi.2015.5.2(14))

Khokhlov, Yu., and Shaposhnik, S. B. (2012). *ICT-compliant as a factor in the socio-economic development of Russia* (Institute for Informatics Report) ([http://www.iis.ru/docs/e-Competences\\_full\\_report.pdf](http://www.iis.ru/docs/e-Competences_full_report.pdf)). (In Russian.)

Lisin, E., Rogalev, A., Strielkowski, W., and Komarov, I. (2015). Sustainable modernization of the Russian power utilities industry // *Sustainability*, 7(9), 11378–11400. <https://doi.org/10.3390/su70911378>

Lisin, E., Shuvalova, D., Volkova, I., and Strielkowski, W. (2018). Sustainable Development of Regional Power Systems and the Consumption of Electric Energy // *Sustainability*, 10(4), 1111–1121. <https://doi.org/10.3390/su10041111>

Lisin, E., Sobolev, A., Strielkowski, W., and Garanin, I. (2016). Thermal efficiency of cogeneration units with multi-stage reheating for Russian municipal heating systems // *Energies*, 9(4), 269–288. <https://doi.org/10.3390/en9040269>

Litau, E. (2017). 'Evolution of species' in business: From mice to elephants. The question of small enterprise development // *Journal of Advanced Research in Law and Economics*, 8(6), 1812–1824. [http://doi.org/10.14505/jarle.v8.6\(28\).16](http://doi.org/10.14505/jarle.v8.6(28).16)

Litau, E. (2018). Entrepreneurship and economic growth: A look from the perspective of cognitive economics, pp. 143–147 / In: ACM International Conference Proceeding Series. <http://doi.org/10.1145/3271972.3271978>

Ministry of Education of the Republic of Azerbaijan (2019). *Project description* (<http://ict.edu.az/en/tehsil-sisteminde-ikt-infrastrukturuninkisafesi.html>).

Newbery, D., Pollitt, M. G., Ritz, R. A., and Strielkowski, W. (2018). Market design for a high-renewables European electricity system // *Renewable and Sustainable Energy Reviews*, 91, 695–707. <https://doi.org/10.1016/j.rser.2018.04.025>

Porat, M. U. (1978). Global implications of the information society // *Journal of Communication*, 28(1), 70–80. <https://doi.org/10.1111/j.1460-2466.1978.tb01565.x>

Šlaus, I., and Jacobs, G. (2011). Human capital and sustainability // *Sustainability*, 3(1), 97–154. <https://doi.org/10.3390/su3010097>

- 
- Stojanov, R., Strielkowski, W., and Drbohlav, D. (2011). Labour migration and remittances: current trends in times of economic recession // *Geografie*, 116(4), 375–400.
- Strielkowski, W., and Čábelková, I. (2015). Religion, culture, and tax evasion: Evidence from the Czech Republic // *Religions*, 6(2), 657–669. <https://doi.org/10.3390/rel6020657>
- Strielkowski, W., Tumanyan, Y., and Kalyugina, S. (2016). Labour Market Inclusion of International Protection Applicants and Beneficiaries // *Economics and Sociology*, 9(2), 293–302. <https://doi.org/10.14254/2071-789X.2016/9-2/20>
- Sudova, T. (2001). *The humanely invested capital in a traumatized economy*. Saint Petersburg University Press.
- UNCTAD (2013). *Report on Information Economy*. UN. ([https://unctad.org/en/PublicationsLibrary/ier2013\\_en.pdf](https://unctad.org/en/PublicationsLibrary/ier2013_en.pdf)).
- Yusupov, R. (2009). Informatization of factors like innovation economics // *Economics and Management*, 10, 5–10.