The integration function of ICT in the context of sustainable demographic development

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Abstract.
Thanks to information and communication technologies, society is radically changing: today there are special and complex conditions for the compatibility of the application and use of ICT in various spheres of society. The article emphasizes the importance of the use of technologies (ICT) for the development and development of the state and all its groups of the population. Thus, the information model of demographic development based on ICT is subject to changes as a result of changes in the population's population and age structure. Taking into account the decisive role of ICT in modern demographic processes, these changes are the basis of the article's analysis.

Keywords:
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**Introduction.** The development of communication networks, the introduction of intelligent technologies have radically changed our attitude to the world, time and space. A new information civilization arose, which separated man from nature and, therefore, formed a new person. As a result of all these changes, we found that the human world is a product of technology. In fact, the human world is the world of technologies created by man. It is no coincidence that modern ICTs play a key role in the computerization of human existence.

In modern times, the problem of artificial intelligence (AI) is of particular relevance. So, today computer programs drive cars without human intervention, coordinate the work of airports, monitor power lines, recognize the faces of wanted criminals, conduct medical examinations, and etc.. But all these processes are based on cooperation with people. This means that modern technology, technology and people interact with each other to achieve common goals.

Currently, artificial intelligence (AI) is used in all spheres of society, which leads to strong changes in human life (automated design, additive manufacturing, synthetic biology, etc.). Even in the era of globalization, it is impossible to prevent these fundamental changes that affect economic, social and political systems. Socio-political, economic processes, health issues, migration, in general, ensuring and maintaining the social system are the subject of many scientific works in the field of demography.

It should be noted that the Fourth Industrial Revolution provides an opportunity to integrate the needs of two billion people into the world economy, which increases the additional demand for goods and services by creating better conditions for individuals and communities in all countries of the world. Although information and communication technologies have a positive impact on economic growth, their negative impact on the labor market should be taken into account, at least in the short term (technological unemployment). That is, the uniqueness of the new technological revolution is manifested in the speed, breadth and depth of changes, as well as in the complete transformation of all systems. Moreover, many professions are already automated.
The data show that innovations in information technology increase productivity by replacing new products rather than creating them.

It is impossible even to imagine a modern person who does not use information technology directly or indirectly. ICT has radically changed the life of every person, his interests and needs. Modern man uses ICT every day for study, work or other purposes. That is, ICT is used in various spheres of society, as well as in forecasting and training.

Modern households are predicted to be more likely to have a mobile phone than to have access to electricity or clean water. On average, 10 out of 8 people in developing countries have a mobile phone. However, over the past decades, the number of internet users has more than tripled, from 2005 billion in 1 to about 3.2 billion. \[1\]

The potential benefits of technical progress for consumers in developing countries are truly enormous. Digital technologies can create jobs and increase revenues in the ICT sector, as well as in many other sectors that use these technologies. They also increase labor productivity by increasing human capital, which is especially important for consumers. For example, technologies connect people to work and the market, lower prices and expand the range of available goods and services. ICT can be especially useful for women, young people, the elderly and people with disabilities who prefer flexible working hours. But not everyone can take advantage of it automatically. Only through improving internet access and basic literacy, updating skills and training systems can the benefits of using ICT be realized.

The main problem for the poor is the use of digital technologies to increase household productivity. However, in developing countries, there are about three people who do not have this opportunity for each person connected to the internet. However, even the internet connection does not play a decisive role in the life of a person who cannot read or use the information available on the internet. New jobs require different skills and abilities. Obviously, the enormous power of computers and the internet connection make some skills obsolete. Creativity implies the presence of complex skills that complement technology, such as critical
thinking. These skills remain difficult to imitate technology, as a result of which man remains defenseless against the challenges of information civilization. All this helps to conclude that digital technologies can increase productivity and improve overall well-being, but market disruptions related to technology can be painful and cause inequality.

It is known that communication, entertainment and information search are the most relevant areas of ICT use. So, in African countries, social networks, email, instant messaging, verification of facts and definitions are the areas most used by ICT. The same choice can be observed in Argentina, Brazil, Colombia, Mexico, Uruguay and the countries of the European Union. The use of digital technologies for business, education and health care has become more widespread. In the European Union countries, about 60 percent of internet users search for medical information, and 13 percent sign up for doctors appointments on the internet. In Brazil, 60 percent of internet users use the internet for educational purposes, while in Mexico 35 percent. In African countries, one in four people who use the Internet states that it does so to obtain information about health and education. Internet use varies by population. In Brazil and Mexico, women, rural residents and the poor use the internet less often for financial transactions or communication with government agencies, preferring education. Teenagers and young people also go to ICT for educational purposes.

The Fourth Industrial Revolution provides an opportunity to lead a healthier and more active life. Obviously, since we live in an information society, we need to reconsider issues such as working age, retirement age and Individual Life Planning [2]. The difficulties that many countries face during the discussion of these issues are another sign of humanity's unpreparedness for these changes and the need for their understanding.

According to some forecasts, the world's population should increase from the current 7.2 billion in 2030 to 8 billion and in 2050 to 9 billion. This should lead to an increase in overall demand. But now there is another strong demographic trend, which is aging. It is believed that this
trend applies, first of all, to rich Western countries. But the birth rate is falling not only in Europe, where the recession began, but also in South America, in the Caribbean countries, in many Asian countries, including China and South India, and even in a number of countries in the Middle East and North Africa, especially in Lebanon, Morocco and Iran. Old age is becoming an economic problem, since without a sharp increase in the retirement age, the number of the able-bodied population will decrease along with an increase in the number of non-working elderly people.

In scientific research, many attempts have been made to define the concept of demographic change. In fact, we are talking about five main factors and trends, the interaction of which changes the composition of societies and affects demography. For example, in the long term, a decrease in the birth rate leads to major changes in the composition of the population. However, the evolution of the birth rate, primarily associated with social changes, is also observed against the background of economic, cultural and technological changes. At the same time, life expectancy has steadily increased in post-industrial societies since the 1950s. These factors lead to a change in the structure of the population in the long term towards the society of older people. And old age is a factor that can be considered the basis for understanding multifaceted and dynamic demographic processes. The emerging situation has a wide range of social and economic consequences that affect the change in demand for ICT.

The change in demographic indicators is also influenced by migration processes. This is reflected in the fact that young, educated people leave villages and their districts in search of better living conditions in cities. At the same time, there is a tendency towards reverse migration of older population groups to the countryside (counter-urbanization).

It should be noted that in the model of demographic transition, which consists of five stages, much attention is paid to indicators such as mortality rates and population growth. Obviously, hunger, epidemics and wars mostly lead to high mortality. High achievements in the field of medicine, the fight against hunger and epidemics, improving living
conditions, in general, lead to a decrease in mortality. It is much more difficult to understand the reasons for the decline in the birth rate. Changes in social and economic conditions, combined with a decrease in mortality, are the main reasons for the decline in the birth rate in European societies. If the first demographic transition was observed with population growth and was associated with economic conditions, then during the second transition, demographic aging and social factors began to become important. In addition, in the context of innovative technologies, the problem of self-awareness, which determines secularization, various family models and forms of coexistence, becomes relevant. Thus, a change in socio-political conditions, as well as an increase in migration flows, can be considered the result of the second demographic transition.

Frank W. Notestein presents the process of demographic transition as a change in the types of reproduction of the population, which coincides with the development and transformation of the productive forces of society. In his opinion, the decline in the birth rate does not have a biological nature, the main role here is assigned to the relations of the population. Even before the world faced a "demographic explosion", F. Notestein believed that the interaction between social changes and demographic trends in rich, industrialized countries could lead to a sharp increase in population in less developed countries. In accordance with this, such a demographic development will hinder the further progress of poor countries [[3]].

Significant differences in birth ratios in different countries are mainly due to the difference in religious views and practices, as well as the level of secularization, the ratio of collectivism and individualism. In addition, migration, which leads to a change in the size and structure of the population, has a huge impact on the course of the natural evolution of the population. Thus, the composition or age structure of the population stands out as an important factor determining the social development of the country. It is in accordance with these indicators that recommendations on the social policy of the state are drawn up.

Thus, the mentioned factors are circumstances that affect
the time required for the transition of society to the modern type of information. In this regard, R. Lesteg “Tree of pleasures” growing on the basis of the new economic and political structure [[4]] introduced the concept. The trunk of a tree is the physiological needs of people, and its innumerable branches are a product of the development of the economy, that is, needs that combine intangible benefits. In western society, “branches” can include freedom of choice, secularization. R. Lesteg also notes the decline of traditional values and the growing demand for individuality. Among the needs, gender policy and emancipation stand out, which make a significant contribution to the departure from the traditional type of demographic development. These are the main components of the theory of demographic transition that affect the dynamics of birth and death.

**Result.** Demographic aspects of sustainable human development the demographic aspects of human development include population health, life expectancy, population aging, birth, reproductive health, and other broad-field issues. Ensuring human development requires, first of all, the proper organization of medical and educational services in the country. The determination of the demand and supply for these services follows from the data on the number of available and expected populations in need of the services, the composition of the population and the placement of the population. Keeping supply and demand in balance saves funds allocated from the state budget and increases the effectiveness of spending. At the same time, one of the main criteria for Human Development is the indicator of decent living standards. The level of well-being of the population obtained as a result of socio-economic development is determined by the level of employment, productivity of workers, incomes of the population, working conditions and other factors, as well as the effectiveness of the system of distribution of state revenues, taking into account the needs of each citizen of the country, using labor potentials effectively. [[5]]

Assessment of the needs of the population and, accordingly, planning directions of activity in the country's development strategy is carried out primarily on the basis of monitoring the demographic situation and trends in population
development. In the context of demographic development, the sustainability of human development means the optimal growth of the population, the optimal type of population reproduction. Thus, rapid population growth or stable decline impede sustainable development. Currently, the rapid growth of the population observed in the world is expressed in a sharp increase in environmental impact and an increase in the total demand of people, which affects the growth of poverty, economic backwardness and social instability.

At the same time, the decline in the population in developed countries and the acceleration of aging processes in the world result in a decrease in labor resources and the number of future generations that play an important role in sustainable development. Thus, sustainable human development at the global and national levels, combined with economic, social and demographic development, creates a complex system of relations between the states of Eastern Europe and the CIS in order to form the state policy of the Republic of Azerbaijan in the field of population development, for the first time in our country, the concept of demographic development was developed and approved by the Decree of the President of the Republic of Azerbaijan dated December 9, 1999 year No. 290. Based on national interests, the concept is based on the principles of documents adopted at the International Conference on population and development in Cairo in 1994, the World Summit for Social Development (Copenhagen, 1995) and the World Conference on the status of women (Beijing, 1994).

On the basis of the concept of demographic development, the “state program in the field of demography and population development in the Republic of Azerbaijan” was prepared and approved by the Order of the president of the Republic of Azerbaijan dated November 11, 2004 No. 517. The main goal of the state program is to achieve optimal reproduction of the population, increase the average life expectancy, strengthen the protection of mothers and children, create a favorable socio-economic basis for the development of families, and determine ways to regulate migration processes. This program is implemented in connection with other adopted state programs on socio-economic development of the Republic of Azerbaijan,
determining the medium-term strategy of demographic and population development in the country.

**References:**