# INFORMATION TECHNOLOGIES AS A DETERMINING FACTOR OF DEVELOPMENT OF OBJECTS OF SOCIAL-INFRASTRUCTURAL CENTERS OF THE REGION

<sup>a</sup>GABIT MUCKANAEVICH KUSSAINOV, <sup>b</sup>ELEONORA D. ABDOL, <sup>c</sup>ZHOMART MUKHAMBETOV, <sup>d</sup>MANSHUK MUKHAMETKALYKIZI MUKHAMETKALY, <sup>c</sup>DINARA SADIRBEKOVA, <sup>f</sup>ZHAINA TALGATOVNA SHAKHTYBAYEVA, <sup>g</sup>MARAT SEIDAKHMETOV, <sup>b</sup>SABIRA NISHANBAYEVA

<sup>a</sup>Center of Excellence of the Autonomous Educational organization «Nazarbayev Intellectual Schools», Nur-Sultan, Kazakhstan

<sup>b-c</sup>Kh. Dosmukhamedov Atyrau State University, 060011, 212 Student Ave., Atyrau, Kazakhstan

<sup>d</sup>Department of «KAZTEST System Development», National Testing Center of the Ministry of Education and Science of the Republic of Kazakhstan, Nur-Sultan, Kazakhstan

<sup>e</sup>Department of General Pedagogy, Kazakh National Women's Teacher Training University, 050000, 99 Aiteke bi, Almaty, Kazakhstan

<sup>f</sup>Caspian State University of Technologies and Engineering named after Sh. Yessenov, 130003, 14th Microdistrict, 50, Aktau, Kazakhstan

<sup>8</sup>M. Auezov South Kazakhstan State University, 160012, 5 Tauke Khan Ave., Shymkent, Kazakshtan

<sup>h</sup>Department of Pedagogy and Psychology, Almaty University, 050007, 36 B. Momyshuly Str., Almaty, Kazakhstan

email: <sup>d</sup>mukametkali77@mail.ru, <sup>e</sup>diko82-@mail.ru, <sup>f</sup>jaina\_92.92@mail.ru, <sup>g</sup>SMARAT61@mail.ru, <sup>h</sup>sabira\_01\_03@mail.ru

Abstract: The article defines the concept of "social-infrastructure center", considers the place and role of information technology in the development and functioning of its facilities. The basic principles of the new information technology (integration, flexibility and information content) are highlighted, as well as its characteristic features and features are discussed. The ways of implementation are determined and specific features of the main areas of activity of the objects of social and infrastructure centers in the Internet environment are described.

Keywords: Internet technologies, social infrastructure center, information technology, web site, region.

### **1** Introduction

The stability of the social-economic system of the region involves the formation of a special adapted mechanism that allows you to quickly respond to changes in various factors and adjust movement in a given direction. Operational and complete information support is of fundamental importance and is one of the main elements of the mechanism for managing sustainable development of the regional economic system. (1) In this regard, there is a need for an information-analytical system that determines the actual state of the facility and provides feedback to the authorities and structural units of the region's administration to adjust the processes.

The main objectives of the regional policy to increase the sustainability of the functioning of social-economic systems cannot be solved without appropriate information support and the use of the most modern information technologies, with the help of which the regional management process becomes more effective. Improving management processes at all levels should be based on an ordered, strictly organized system of information support, which allows integrating information resources of the region.

World experience in the implementation of information technologies (IT) in various spheres of economic activity makes it possible to talk about the great potential for the long-term development and functioning of business entities of various organizational and legal forms and infrastructural territorial entities, which include social-infrastructural centers. Under the social-infrastructural centers (SIC) it should be understood the place of concentration in the region of new forms of infrastructural objects of different types of activity, the functioning of which is aimed at meeting the social, social and spiritual needs of the population. Such formations are entirely new structural elements of the region's economic space, therefore, in our opinion, they should be called innovative social and infrastructure centers. (2-3)

SIC must be distinguished by the degree of complexity of the structure and the number of types of activity as multifunctional and monofunctional. The objects of such centers are hypermarkets, shopping and entertainment centers, wholesale markets for agricultural products, specialized shopping centers, festival centers, power centers, shopping and social centers, strip centers, discount centers, fashion shopping centers, outlet centers.

A special place here is given to trading activities, around which other types of activities necessary to meet the social needs of the population are concentrated in the SIC.

#### 2 Materials and Methods

In a general sense, information technology (IT) is a purposeful organized set of information processes using computer technology that provides high-speed data processing, quick information retrieval, data dispersal, access to information sources regardless of their location. (4) According to the definition adopted by UNESCO, information technology is a complex of interdependent, scientific, technological, engineering disciplines that study the methods of effective organization of work of people involved in the processing and storage of information; computer technology and methods of organizing and interacting with people and industrial equipment, their practical applications, as well as social, economic and cultural problems associated with all this. (5, p4) The main features of modern IT are the computer processing of information, the storage of large amounts of the information on computer media and the transmission of information at any distance in the shortest possible time.

With the advent and widespread introduction of computers and peripheral technology, the era of computer information technology has come, which is also called the new, modern, paperless. The basic principles of the new information technology (NIT) are integration, flexibility and information content. For her characteristic such features: (6, p7-9)

- user work in data manipulation mode (rather than programming);
- complete information support at all stages of information passing based on an integrated database, which provides for one unified form of presentation, storage, retrieval, display, recovery, and protection of data;
- paperless document processing, when only its final version is recorded on paper, and the intermediate versions and the necessary data recorded on machine media come to the user through a computer display screen;
- interactive (conversational) task-solving mode, which enables users to actively influence this process;
- the possibility of collective (group) cooperation for the preparation of documents and tasks based on several personal computers combined using communication;
- the possibility of adaptive restructuring of the forms and methods of presenting information in the process of solving the problem.

Given that the concept of "information technology" applies to all areas of human activity, since information that is transformed into data, knowledge, information and software products, technological inventions is an integral part of the present, it is advisable to consider information technology as a determining factor in the development of objects social and infrastructural centers of the region.

The following five areas of application of modern IT in the activities of SIC facilities can be distinguished:

- Automation of management, which includes accounting for personnel involved in the work of the SIC, electronic document management between the SIC facilities, decision-making support for future development, business management.
- Automation of accounting, which involves the use of a variety of software, in particular, accounting programs, programs for calculating prices for goods and services, programs for making payments via the Internet.
- 3. Communications, with the help of which information about SIC objects is posted on web pages, communication is carried out using e-mail, Skype and ICQ.
- 4. Advertising SIC facilities and their services on the Internet, earning revenue from advertising on their web pages.
- 5. Internet sales organization system.

SIC objects, like any other company that uses IT, in particular the Internet, for their work, encounter some features that are not characteristic of their traditional activities, because, as I.A. Strelets: (7, p55-61)

- the boundaries of activity are changing, as interaction and cooperation with other partners is becoming a faster and less expensive process, it is possible to draw up agreements and transactions with geographically remote counterparties;
- the level of activity transparency increases (pricing becomes transparent, the process of fulfilling orders is more controlled);
- there is a reduction in the time of intra-company transactions, which leads to an acceleration of the production process, and the reaction rate of the company is a measure of its competitiveness, increases the degree of adaptability to ongoing economic processes;
- rules of conduct on the Internet are standardized, which helps reduce operating costs, helps reduce the costs associated with the assessment of consumer behavior.

A special place in the development of objects of social infrastructure centers is given to such a type of IT as Internet technology, due to which various information resources are created and maintained on the Internet computer network.

We agree with the opinion of N.V. Matsedonska, (8) that the main advantages of Internet technologies for doing business are:

- 1. New economic system: the development of the Internet has created a new type of economy, the growth rate of which is so enormous that it has already managed to change the most traditional concept of doing business.
- 2. The Internet is an ideal environment for doing business since all its users can act as potential customers
- 3. Creating and maintaining an image through a website
- 4. Cost minimization.
- 5. Availability of information. Thanks to the Internet, it is possible to convey information to the consumer in a few hours by publishing it on the window of their website.
- 6. Ability to work 24 hours a day.
- 7. The expansion of opportunities for the client, first of all, is providing him with the necessary information.
- Minimum initial investment: to create a web site there is no need for large financial investments. Costs are significantly lower compared to opening a regular store.
- 9. The possibility of globalization: the combination of technologies and capabilities of the Internet and advertising opens up great opportunities for online advertising.

This list can be supplemented with such advantages as:

1. Permanent and operational access to obtaining and searching for business information.

- 2. The possibility of simultaneous centralization and decentralization of management of the business entity.
- 3. Providing interactive contact with potential partners and consumers.
- The possibility of distance learning to build the professional competence of managers, management personnel.

The capabilities of the Internet to ensure the development and operation of SIC facilities can be used in the following areas:

- Market monitoring, which provides for the study of consumer needs and the study of competitors through Internet tools such as search engines, forums, thematic and special sites, and portals, catalogs, your website, E-mail.
- Marketing activities, which include advertising about goods and services, advertising the organization itself, sales promotion, direct marketing through its website, banner advertising, cross-references, E-mail.
- 3. Obtaining professional information by the personnel of CIS facilities through search engines, forums, chats, sites and portals, catalogs, conferences, mailing lists.
- 4. Support business contacts through our websites, e-mail.
- 5. Service in the "Internet banking" system, which embodies the latest achievements in the field of Internet technologies and opens up new opportunities in the field of services that are provided by the bank, in particular: (7, p55-61)
- mobility access to the system is possible from any computer that is connected to the Internet, without the need to install additional software;
- efficiency the client's access to his banking financial resources and the receipt of relevant information is possible 24 hours and on any day of the week;
- usability of the system.
- 6. Starting a new business or creating business units within the company (online stores).

In turn, G.V. Berezhnov (9, p57-63) emphasizes that no matter how paradoxical changes would occur in the field of IT, they have not yet changed the relationship of controllability and spontaneity, stability and spontaneity in economic processes, order and chaos as characteristics that are constantly associated with development. Although new ideas, concepts, and management tools are often considered only as positive, i.e. not creating new problems.

### **3 Results and Discussion**

The stability of the socio-economic system of the region involves the formation of the special adapted mechanism that allows you to quickly respond to changes in various factors and adjust movement in a given direction. Operational and complete information support is of fundamental importance and is one of the main elements of the mechanism for managing sustainable development of the regional economic system. In this regard, there is a need for an information-analytical system that determines the actual state of the facility and provides feedback to the authorities and structural units of the region's administration to adjust the processes.

The main objectives of the regional policy to increase the sustainability of the functioning of socio-economic systems cannot be solved without appropriate information support and the use of the most modern information technologies, with the help of which the regional management process becomes more effective. Improving management processes at all levels should be based on an ordered, strictly organized system of information support, which allows integrating information resources of the region.

For effective resource management, development planning and operational management of all aspects of the region's economic life, it is necessary to organize in its administration (Government) a system for collecting, storing, processing geographically "linked" information about all management objects.

Analyzing the state of the problem under consideration, we can conclude that all the information necessary for making managerial decisions in the region is practically available, but it is scattered across sectoral and municipal systems, systematized in the interests of the departmental vertical and sometimes unavailable for analysis in the interests of the region. The reason is that the state concept of informatization developed at the level of technical solutions for a long time was not. Therefore, heterogeneous computer systems are widely used, not always modern software and database management systems. Many organizations, on their own and with their understanding of the problems, are building their computer networks in the regions, overloading communication channels. (10)

To eliminate this situation during the study, the fundamental requirements for the formation of an information-analytical system are formulated by the need to ensure the dynamic stability of the region's economy:

- the system should be based on the domestic software base and the latest technologies, technological solutions and system architecture should exclude the revision of design decisions in the foreseeable future;
- the system must be adaptive, evolving, integrating and integrable, i.e. during its design, it should be provided that this system is a component of a top-level system, part of single information space of the federal district.

The system should not tie the user to a specific workplace (Internet - technology), be expensive and not very effective in terms of price-opportunity and affordable for depressed regions.

Considering the principles formulated, an information-analytical system of the socio-economic development of the region should be introduced in the regional administration. It is built based on a set of tools for automation decision support, which includes a unit for collecting information from departmental and municipal systems in a single data warehouse, it's sophisticated analytical processing, and maintenance technology for this warehouse. (11) Based on the complex, solutions were generated to create integrated data warehouses based on indicators of the socio-economic development of the region, a unified register of property objects and others. (12) As a result of the information and analytical support of the civil service, qualitatively new opportunities have been created for managing the development of the region, transferring all of its most important subsystems to a mode of sustainable functioning.

### 4 Conclusion

Thus, social-infrastructure centers are an important element in the mechanism for ensuring the social-economic development of the region. They determine the prerequisites for the economic development of the region by creating new jobs, activating the influx of investments into the region, increasing tax revenues to the budget, developing the infrastructure of the territories adjacent to them, and creating a new system of territorial organization of production. The use of modern IT, in particular Internet technologies, is one of the conditions for their successful functioning and future development. (13-14) Indeed, the Internet provides the ability to transfer information from SIC facilities to their potential customers, disseminate an electronic presentation about them themselves, as well as about the goods and services that they sell, and conduct cash settlements.

Within the framework of the created infrastructure, it is possible to deploy a single mechanism of electronic commerce, educational space, and other infrastructure units at the district level. (11) Thus, the process of informatization and the formation of information resources has moved from the formation phase to the phase of active development, which is accompanied by a significant increase in the volume of processed information, the expansion of the list of registers, registers and databases, the commissioning of fundamentally new subsystems of the information system of the Central Federal District authorities, and the introduction of new analytical technology.

### Literature:

1. Satpayeva ZT. State and prospects of development of Kazakhstan innovative infrastructure. European Research Studies Journal. 2017; XX(2B):123-48.

2. Matatkova K, Stejskal J. Prescriptive analysis of the regional innovation system – novel method for public administration authorities. Transylvanian Review of Administrative Sciences. 2013; 39:91-107.

3. Frolova EV, Vinichenko MV, Kirillov AV, Rogacha OV, Kabanova EE. Development of social infrastructure in the management practices of local authorities: Trends and factors. International Journal of Environmental & Science Education. 2016; 11(15):7421-30.

4. Information Technology. Wikipedia: The Free Encyclopedia; n.d. Available at: http://ru.wikipedia.org

5. Melnikov VP. Informatsionnye tekhnologii [Information technology]. Moscow: Akademiia; 2008.

6. Denisova OO. Informatsionnye sistemy i tekhnologii v iuridicheskoi deiatelnosti [Information systems and technology in legal activity]. Kyiv: KNEU; 2004:7-9.

7. Strelets IA. Modifikatsiya povedeniya firmy pod vliyaniyem informatsionnykh tekhnologiy [Behavior modification firms influenced information technology]. Kreativnaia ekonomika. 2007; 4(4):55-61. Available at: http://www.creativeconom y.ru/articles/4109/

8. Matsedonska NV, Klividenko LM. Internet-tekhnologii u marketingovii diialnosti pidpriemstv oliino-zhirovoii galuzi [Internet technologies in the marketing activity of the enterprises of fat-and-oil industry]. Naukovyy visnyk Khersonskoho derzhavnoho universytetu: Ekonomichni nauky. 2016; 16(2):115-8. Available at: http://nbuv.gov.ua/UJRN/Nvkhd u\_en\_2016\_16(2)\_31

9. Berezhnov GV. Internet-sistemy v globalnoy ekonomike [Internet systems in the global economy]. Kreativnaia ekonomika. 2007; 1(3):57-63. Available at: http://www.creativ economy.ru/articles/4092/

10. EXIMAR. A Study of Innovation Infrastructure and Info-Communication Market of Kazakhstan; 2014.

11. Stupka NM. Vprovadzhennia Internet-tekhnologii iak napriam pidvishchennia konkurentospromozhnosti komertsiinikh bankiv [The introduction of Internet technology as a direction to improve the competitiveness of commercial banks]. Available at: dspace.uabs.edu.ua/bitstream/123456789/576/1/2004\_10.pdf

12. Yessengeldina A, Sitenko D, Seitalinova S. The development of social infrastructure in Kazakhstan. Public Policy and Administration. 2014; 13(2):222-31.

13. Tashkeyeva G, Abykanova B, Sariyeva A, Sadirbekova D, Marhabaeva A. Application of Methods of Interactive Training in the Educational Environment of Higher Educational Institutions. Proceedings of 16th International Multidisciplinary Scientific Geo Conference SGEM 2016; 2016: 747-53.

14. Abykanova B, Yelezhanova S, Mailybayeva A, Sadirbekova D, Turmukhanova G, Kabiden K. Information technology in modern education. Revista Dilemas Contemporáneos: Educación, Política y Valores, 2019; 6 (Special Edition).

### **Primary Paper Section:** A

## Secondary Paper Section: AH