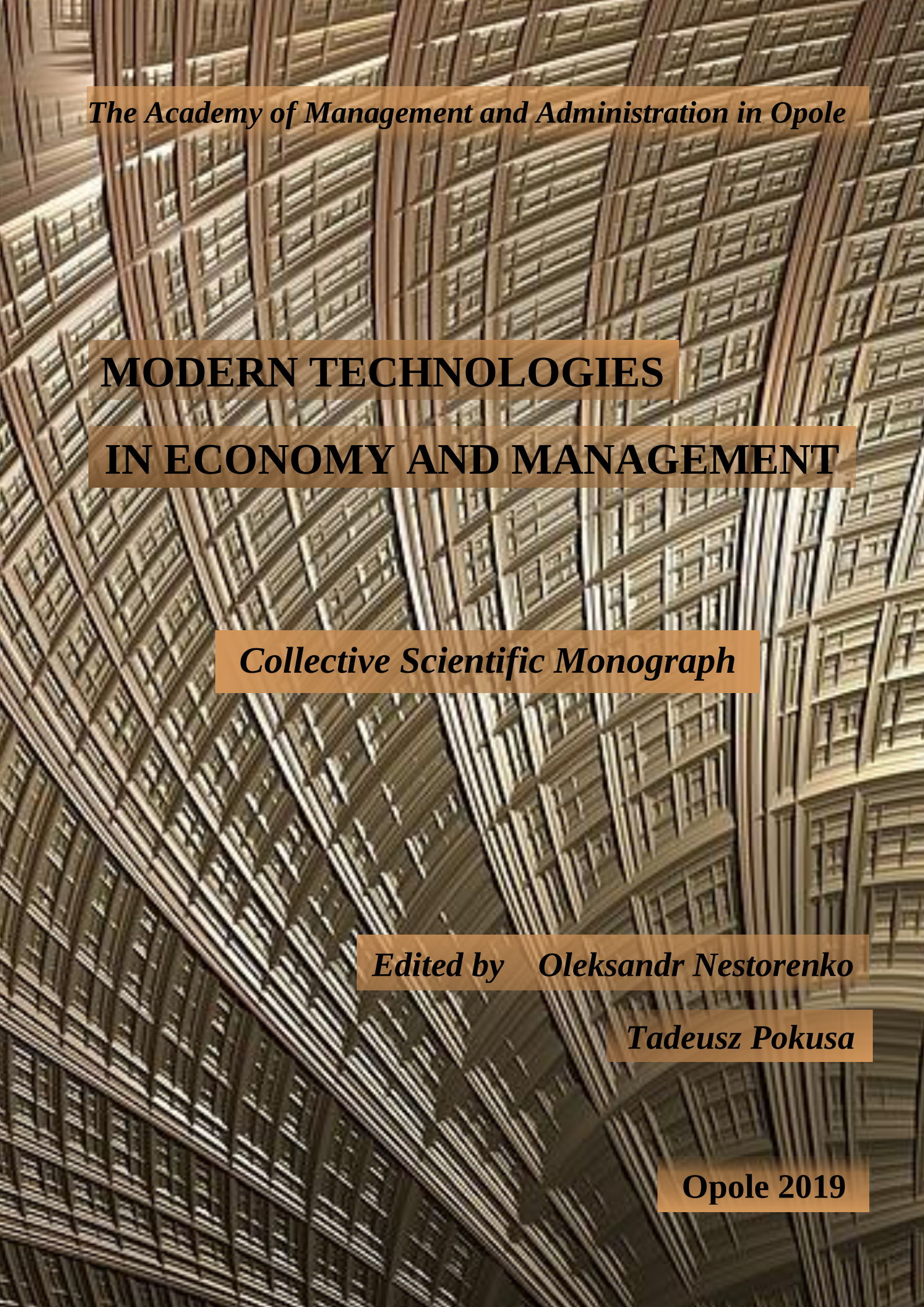

The Academy of Management and Administration in Opole

MODERN TECHNOLOGIES IN ECONOMY AND MANAGEMENT

Collective Scientific Monograph

Edited by Oleksandr Nestorenko

Tadeusz Pokusa

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9. Theoretical aspects of innovative technologies in management of AIC

Promoting of new technologies in production and market is quite difficult because everything is new perceived skeptical. Especially slowly market perceives innovations in those areas where there are relatively long-lasting and even traditional systems of interdependence. These systems can be special technology, ways to use of goods or services, its certain qualities and parameters. Close to such characteristic is the system interdependencies in agriculture.

When discussing innovation, we often use the expression that there are different periods of technology development: stone, bronze, iron era.

In Ukraine, in the stone period, there are few farms - it is rare occasions where farmers are still use horses and plows. The vast majority still stayed in Bronze period. And only 5-10 companies keep pace with the development of innovation. They work with Big Data, not with material resources. They relate to agriculture more analytically and creatively.

Today the formation of innovation system in Ukraine, particularly in agriculture, is under very adverse conditions: insufficient of ensure scientific sphere logistical resources, limited information resources, loss of highly skilled workers, respectively high unemployment, poverty of rural population, low quality of life of rural population, irrational use of the potential of the agrarian sector.All this reduces the level of investment attractiveness of rural areasand hinders the process of their socio-economic development. Thus, rural areas in Ukraine are characterized by a peripheral type of development [1, p. 18].

At present, the overall level of informatization of enterprises is extremely low.

Mostly this is due to the economic downturn in the country, in which enterprises can not afford large financial investments in technology, which increase efficiency of management of production. However, already there are units of enterprises, in particular in agriculture, which can become leaders in using the most up-to-date and expensive information systems.

Introduction of information technologies in agriculture – support for various agrarian issues at any time anywhere, by any means and in any applied agricultural sector. In this way, agrarian information resources for the agroindustrial complex will be able to support a single chain:information – consultation – making decisions – learning. To ensure the efficient functioning of such a chain and to solve a complex of interrelated, practically important tasks that are being implementedon basis of construction of an integrated information environment and creation of integrated automated production management systems.That is the information environment on the basis of data and knowledge, elements of information and reference systems, expert systems, geographic information systems and decision-making systems.Which works in the network of personal and handheld computers, mobile phones and Internet environments; printed publications and brochures; interactive applications on electronic media [4, c. 32].

In modern conditions, one of the main objectives of agricultural development priority of countries and regionssolution for food issues and need to improve competitiveness intensify agro-industrial production. Automation, complex mechanization and development of information technologiesallowing from each unit of resources used to receive more and a variety of high-quality food products. This is the most effective way of developing an agro-industrial complex.

Activity on the IT market depends primarily on [3, p. 35]:

1) production capacity, which characterizes the general state of production (recession, rise) and, as a consequence, the urgency of the needs of the enterprise in the informatization;

2) availability of investments, number and structure of which (long-term projects) determines potential of enterprises as IT customersas well as the choice of the type of information systems – systems aimed at optimizing production technologies (for example, CAD) and (or) systems designed to optimize enterprise management (management IS). In the absence of sufficient funding, informatization, as a rule, began with CAD. Next step, which goes on is mass implementation of

information management systems resources (material, technical, labor, etc.), the enterprise as a whole;

3) export potential, which determines intensity of work on the world market. Typically, these companies seek to maximize their performance according to world standards. Agriculture – an ideal environment for the application of information technology (IT). In this regard, for effective and sustainable functioning of economic entities, use of latest information technology in this area will allow to increase productivity of agricultural production and will have a powerful positive effect for its development. Also, due to the influence of certain macrofactors and hard work of Ukrainian farmers, AIC will become the leading industry in the structure of the national economy. Since IT solutions are actively used in agriculture in the leading countries of the world and for several decades they have been developing and improving their own methods of using information systems and the software products on which they are based.

The profession of modern agricultural workers requires more extensive use of technological skills than ever before.We have studied new methods and improve computerized agricultural use as well as improving technology of its work. Farm animals are grown and controlled using electronic sensors and identification systems. Soon, online sales or purchases will become very popular in the world, since you can immediately get most information to make right decision. [7].

It is also known that popular technologies are implemented within framework of applied computer programs. These are, first of all, programs for optimizing the placement of crops in zonal crop rotation systems and animal feeding rations; on the basis of calculation of fertilizer doses; carrying out a complex of land planning and land management; keeping state land cadastre of history of fields and developing technological cards for cultivating agricultural crops; regulation of plant nutrition and microclimate in greenhouses; controlling the process of storing potatoes and vegetables, the quality of cultivated products and feed, soil contamination; estimation of economic efficiency of production; management of technological processes in

poultry houses, production processes in processing of poultry meat and storage of products and much more.

To implement application of IT in the AIC, you need to use following components [2, c. 44]:

- public relations, which includes news, information on agrarian activities, forums of interaction with state authorities, lawyers, organizations, etc.;
- eLearning, where people can get or raise their level on agriculture;
- maintenance issues the manufacturer of advanced planning (biznesplanuvannya) to the marketing and sale of daily operations;
- support of providing consulting services;
- support of scientific developments and researches.

We believe that for effective operation of agro-industrial complex, special attention should be paid to Web-technologies and usege of Internet, as they provide a unique opportunity to access information and implementation of interactive distance learning and counseling.

Information technology allows you to store a huge amount of data, analyze them and, on the basis of results, propose solutions that will minimize costs and maximize profits of agrarian enterprises.

Application of information technologies increases productivity, in accordance with this process, many tasks are solved. After all, information technology allows you to store a huge amount of data, analyze them and based on results, offer solutions to problems, which would minimize costs and maximize the profits of agrarian enterprises. Usege of information technologies will significantly improve information system of agroindustrial complex, which will be accompanied by an increase in the competitiveness of domestic agrarian production [6, p. 199].

Ukraine yields significantly loses to countries where agro actively implement technological innovations. For example, in New Zealand, from one hectare, they collect twice as much wheat and corn than we have.

Unfortunately, today innovative potential of agroindustrial complex in country is used in range of 4-5%, while in the US this figure is 50%.

The share of science-intensive products in agroindustrial complex of Ukraine does not exceed 1% of total, and in developed countries it is more than 20%.

And among those 10% of Ukrainian agro companies that innovate – all largest agricultural holdings in country, which determine face of market. They not only buy solutions for Ukrainian and foreign startups, but they themselves do in-house development, creating an IT solution for their own needs.

According to Association AgTech Ukraine, there are about 70 agrotechnological startups in Ukraine. In addition to them, Ukrainian agritech-market employs integrators who implement"iron" and software of global developers in Ukrainian farms.

Task of startups is to solve problems, and very soon humanity will face one of most serious problems in its modern history. By 2050, planet's population will grow so much that we need 70% more food. At the same time, quantity of agricultural land decreases with each passing year. Agrotechnology will have to solve this problem.

Role and place of IT in industry industries and research. Scientific and technological progress and information technologies of agribusiness.World practice shows that in recent decades almost 2/3 ofgrowth of agricultural production is associated with implementation of scientific and technological progress. Features of modern intensification of agricultural production is a qualitative change of resources, which allows to significantly improve efficiency of their use.

Under current conditions, demand for science as a generator of scientific and technological progress increases, and need for overall development of industry and branch science is understood as its scientific and technological development, introduction of modern information technology.

At beginning of 21st century, when determining volume of existing information and controlling all information flows is impossible, humanity, or at least part of it, can no longer do without information technology, which took its place in virtually all spheres of human life.

Nowadays, agriculture needs to optimize production in order to maximize profits, rational use of resources, including natural, environmental protection. It gets

new features. Normal agriculture turns into "precise agriculture", which provides an effective and efficient process management growth of plants according to their needs nutrients and growth conditions.

We agree that main directions of accelerating and increasing the efficiency of scientific and technological progress of agro-industrial complex can be attributed to the present stage:

- concentration of efforts of agrarian science on most priority directions capable of accelerating solution of technical, scientific and technological and socio-economic tasks put to the industry;
- more widespread use of intellectual property objects in agrarian production, taking into account realization of rights to intellectual property objects when country joins WTO;
- improvement of economic mechanism of functioning of agrarian scientific organizations in order to ensure rational integration of scientific and technological bloc into process of market reform of agrarian sector;
- formation of information and consulting service of agroindustrial complex in order to promote increase of efficiency of development of agrarian production and improve socio-economic conditions of life in village by spreading new knowledge and mastering achievements of science and technology in production (advisory);
- development of entrepreneurship in scientific and technical field of agribusiness and formation of new organizational structures on this basis for implementation of scientific and technological and innovation activities;
- improvement of management of scientific and technical activities taking into account transition from administrative to democratic procedures of management and expansion of autonomy of scientific organizations;
- deepening international scientific and technical cooperation through active participation in intergovernmental and interdepartmental agreements.

In modern conditions, agrarian science should focus on more important areas of its activity, which can accelerate the decision of agribusiness tasks, namely, priority.

Decisive factors for withdrawal of agroindustrial complex from a crisis state, sustainable growth of agricultural production is successful development and development of scientific and technological achievements and innovative proposals, modern information technologies. This is a reserve, which often requires some material costs, but which ultimately depends on effectiveness of agricultural production, use of innovative advances in practice.

Managing the design and development of scientific and technological achievements and advanced production experience in agriculture of Ukraine in XXI century should acquire a determining value.

Creating an effective information environment in agriculture, in particular in the engineering and technical system, is an urgent task, both for the sphere of management, for production and for science.

Without information component it is difficult to speak in general about development of scientific and technological advances, and vice versa, when disseminating information without assimilation in production can not talk about an effective information sphere. Therefore, problem of introduction (development) of scientific and technological advances and modern information technologies has always played an exclusive role in agriculture [5, p. 86].

It is believed that the beginning of XXI century is transition from energy to information technology. On global scale, it is characterized by a significant redistribution of resources in favor of further global information. Before the crisis in Ukraine, growth of investments in development of informatization, in particular, in agriculture, is noted.

Summarizing it should be noted that due to the widespread use of modern information technology can achieve better results in the agricultural sector. Crops are getting better, products are more qualitative. Manufacturers from any part of planet are given the opportunity to present their product and sell it at a good price. Therefore, need to finance the introduction of electronic technology in the agro-industrial complex.Training staff capable of creating and applying information technology in agriculture is evident.

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