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THE IMPORTANCE OF E-ADMINISTRATION IN BUILDING THE INFORMATION SOCIETY

ABSTRACT

The ongoing social, economic and technological changes are radically altering the reality that surrounds us. The driving force behind these changes is information, which has become a resource necessary for the functioning and development of every society. In the new reality, the use of information and communication technologies shows great potential. The effect of transformation is the information society. The aim of this article is to present the place that electronic administration occupies in the development of the information society. The cognitive part describes the essence and genesis of the information society and presents electronic administration as one of the elements of the information society.

Key words:

building, features, education, functions, areas, society

INTRODUCTION

Civilization transformations, the direct result of which is accelerated technical development, resulted in profound changes in the system of technology, production, education, transport, and culture. This contributed to the concept of the Information Society – a society based on knowledge and information[416].

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[416] J. Wrona, *Cyberspace and international law, status quo and prospects*, Białystok 2017, p. 42.

The vision of the information society is engaging and requires fundamental changes in the way people think about how it functions and develops. The emerging new paradigm of the information society prompts us to seek and design more perfect IT solutions that will allow the creation and improvement of information societies.

The construction of the information society is now a condition that stimulates the growth of the competitiveness of the economy, the implementation of a coherent regional policy, and the development of many other areas of social life. Already now, many social and economic problems cannot be solved without the extensive use of information techniques.[417]

Since 2014, the European Commission has been monitoring the level of digital advancement of the European Union. The annual analysis of Eurostat data makes it possible to identify priority areas of the digital economy in the Member States that require specific actions and investments. The report describes 34 indicators relating to 5 main categories: connectivity, human capital, use of internet services, integration of digital technology; digital public services. In 2020 Poland is in the 23rd place[418]. An interesting proposal related to the construction of the information society is the use of information and communication technologies for the reconstruction of internal processes of public administration, and the provision of electronic public services. The development of the information society is not possible without a well-functioning electronic administration (e-administration).

The dynamic development of digital technologies poses new challenges for the public sector. Effective e-administration can significantly simplify and speed up procedures. According to the report of the European Commission, the number of people who used e-administration services in 2019 increased from 58% to 67%. Poland included the building of the information society in its strategic plans.

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[417] H. Wyrebek, Z. Ciekanowski, *Public administration in cyberspace*, [at:] „Przegląd Policyjny" 4(136), Szczytno 2019, p. 20.
[418] https://cyberpolicy.nask.pl/indeks-gospodarki-cyfrowej-i-spoleczenstwa-cyfrowego-desi-2020/, 12.08.2020.

THE ESSENCE OF THE INFORMATION SOCIETY

The first mentions of the information society appeared in the mid-1960s in Japan. The term *johoka shakai* was first used in 1963 by Tadao Umesao in a work on the evolutionary theory of information-based society. The term means a society that communicates through a computer, or simply the information society. In the early seventies, this term was also used by Yoneji Masuda in his considerations on social change in connection with the development of the information and telecommunications sector[419].

The document "Europe and the Global Information Society. Recommendations to the European Council" published by the European Council in 1994 is considered the beginning of the creation of the information society policy in the European Union[420]. This act was dubbed the Bangermann Report, after Martin Bangemann, Commissioner for Industry, Information Technology, and Telecommunications.

According to experts, the information society should be created on the basis of private sector finance and market mechanisms. The public sector, in turn, should take appropriate steps to develop appropriate legal regulations, protect citizens and consumers, and raise public awareness. The postulates contained in the Bangemann Report set the policy of the European Union in the field of the information society.

According to them:

− the development of the information society should guide the free market – it is therefore necessary to create conditions of fair competition in the field of telecommunications and information services;
− it is necessary to ensure universal access to services, applications, services, and information programs in the EU;
− funds allocated to the development of the information society should come primarily from the private sector;
− protection of privacy and secure flow of information are essential;
− the protection and promotion of cultural and linguistic differences within the European Union must be ensured;

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[419] J.S. Nowak, G. Bliźniuk, *Information Society: experience and the future*, Katowice 2006, p. 9.
[420] *Europe and the Global Information Society. Recommendations of the Bangemann Group to the European Council*, Brussels, 26 maja 1994 rok.

- cooperation should be established with economically less developed countries, in particular with the countries of Central and Eastern Europe;
- new opportunities offered by the development of the information society should be promoted, and appropriate training should be conducted at all stages of education[421].

The information society is characterized by:

- a high level knowledge and information use in everyday life,
- using homogeneous, or compatible information technology for personal and socio-economic use,
- the ability to transmit, receive, and exchange digital data faster, regardless of the distance,
- in the economic field, the existing forms of production are replaced by the basic commodity, which is knowledge and information, and these are the most important in the digital economy[422].

In Poland, the IT solutions were introduced to state institutions upon the Act of February 17, 2005 on the computerization of entities performing public tasks[423].

The Council of Ministers, acting pursuant to Art. 6 sec. 1 of the abovementioned Act, adopted the State Computerization Plan for the years 2007-2010[424].

According to the Plan, the priorities for the development of ICT systems used for the implementation of public tasks for 2007-2010 were as follows:

- transforming Poland into a modern state friendly to citizens and business entities,
- rationalization of public administration expenses related to its computerization and the development of the information society,
- technological neutrality of IT solutions used in the process of computerization of public administration.

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[421] J. S. Nowak, G. Bliźniuk (red.), *Society…* dz. cyt., p. 16.
[422] M. Goliński, *Information society – the origin of the concept and the problem of measurement*, Oficyna Wydawnicza SGH, Warsaw 2011.
[423] Journal Of Laws No. 64, item 565 as amended.
[424] Regulation of the Council of Ministers of 28 March 2007 on the State Computerization Plan for 2007–2010 (Journal of Laws No. 61, item 415).

Another planning document was the Strategy for the development of the information society in Poland until 2013, prepared by the Minister of the Interior and Administration, pursuant to Art. 12a of the Act on Computerization and adopted by the Council of Ministers by resolution in 2008[425].

Generalizing numerous definitions and the above terms, it can be stated that the information society is a new social creation, characterized by the rapid development of ICT technologies, enabling communication and access to information on a very wide, unprecedented scale.

Society is radically changing towards even greater mobility, technology, information and networking.

Already in 1997 N. Moore distinguished three main features of information societies, including:

- use of information as an economic resource,
- greater use of information among the general public,
- development of the information sector in the economy[426].

The characteristic activities and features of the knowledge society include:

- education in which, apart from a traditional teacher, the Internet, distance education, multimedia applications are used,
- work carried out in cyberspace, e-business, e-administration, e-services, allowing for non-standard and flexible forms of employment and professional activity, for which information creation, its processing and use are utilized,
- production, including: the development of the ICT sector, increasing its importance in the functioning of other industries, including an increase in investment expenditure on the latest technologies, servicisation, and digitization of the economy and ICT services,
- global, multimedia, and virtual culture and art, and information techniques are used in the new artistic expression,
- network characterized by: the net as a model of contemporary society and the emergence of virtual communities[427].

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[425] *Strategy for the development of the information society in Poland until 2013*, Warsaw 2008
[426] N. Moore, *The information society, World Information Report* 1997/1998, UNESCO, Paris 1997, p. 271.
[427] J. Bednarek, *The role and place of new threats in cyberspace and the virtual world in the context of social policy*, [in:] J. Lizut (ed.) *Cyberspace threats, Comprehensive program for social service employees*, Warsaw 2014, p. 22.

The information society is characterized by:

- a high degree of use of information in everyday life by most citizens and organizations;
- the use of homogeneous, or compatible information technology for personal, social, educational, and professional use;
- the ability to transmit, receive and quickly exchange digital data regardless of the distance.

There are four main areas of activity for the information society[428]:

1. Technological – concerns the infrastructure and technologies used, i.e. it includes the availability of devices for collecting, processing, storing, and sharing information, a multitude of data transmission channels and the possibility of combining them into various conjugations.
2. Economic – is related to the information sector of the economy, i.e. those branches of production and services that deal with the production of information and information techniques, as well as with their distribution. Information societies are characterized by a large share of these sectors of the economy in GDP.
3. Social – it results from the fact that there is a high percentage of people using information technologies at work, at school, and at home, which is consistent with the high level of education of the society.
4. Cultural – results from the high level of information culture, which is understood as the degree of acceptance of information as a strategic good and a commodity, as well as an appropriate level of information culture[429].

Piotr Sienkiewicz developed three variants of the development of the information society:

1. Variant A: A distributed system with a network structure favoring the game of particular interests, in which the basic resources are information and knowledge. The threats may include: atomization of social behavior with atrophy of interpersonal bonds.
2. Variant B: An integrated system with a hierarchical structure and a game of interest groups, where the win is access to knowledge as the basic resource. The threat may come from a kind of cyber-atrocity.

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3. Variant C: A homeostatic non-linear cybernetic system favoring access to knowledge and wisdom understood as the freedom to use knowledge in the interest of the whole society. Strategy: sustainable and diversified system development[430].

One attempt to measure the development of the information society in a holistic manner, summarizing various statistics, is a study conducted by the World Economic Forum with the participation of INSEAD – one of the largest private management and business schools in the world. The NRI (Networked Readiness Index) index 51 aims to test individual countries in terms of their readiness to take advantage of the opportunities offered by ICT.

Reports are published annually. The indicator itself is derived from 68 pieces of data grouped into three main components:

– environment index: market, policy and regulation, infrastructure,
– readiness index: individual, enterprise, administration,
– use index: individual, enterprise, administration.

Of these 68 pieces of data, 27 are the so-called hard, quantitative, coming from various institutions, such as the United Nations, the World Bank, or the International Telecommunication Union. The remaining 41 pieces of data come from a survey of 12 thousand business leaders commissioned by the World Economic Forum. 51 In Polish publications there are various translations of NRI, for example the index of "network readiness", "Internet potential", "readiness for transformation on the way to the information society". The existence of the information society in many countries is no longer the sphere of slogans, or plans, but a fact. Actions to shape it in Poland were initiated as a result of integration with the structures of the European Union. On the one hand, it involved our country in the process of economic and social transformations taking place in Europe, and on the other, it was often the source of setting goals that were unrealistic in our conditions.

The development of the information society depends on many factors resulting from the current conditions and changes occurring in our country. In recent years, Poland has undoubtedly covered a considerable distance on the road to creating the information society, but research shows that it still occupies

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[430] P. Sienkiewicz, *Forecasting the development of the global information society: visions and scenarios*, [in:] A. Szewczyk, E. Kot (ed.), *The phenomenon of the Internet*, vol. 1, Szczecin 2008, p. 26.

one of the last places in this respect among the EU Member States. The biggest problem in our conditions is not only the provision of appropriate ICT infrastructure, but also the development of appropriate competences allowing for effective use of the opportunities offered by ICT[431].

The cited studies also indicate the importance of support for the idea of the information society by the administration and decision-makers, as well as the need to create a legal environment stimulating, on the one hand, the development and use of new technologies, and, on the other hand, adequate to the challenges they entail.

THE ESSENCE AND FUNCTIONS OF E-ADMINISTRATION

The first discussions on e-administration in Europe began with a report, published in 1994 by the European Commission, entitled "Europe and the Global Information Society. Recommendations to the Europe Council "(named after one of the authors the Bangemann Report). It showed the directions of development of the global information society in Europe. Since then, the concept of e-administration, as a component of eEurope, has become a permanent feature of the issues raised in the EU.

In Poland, the year 2000 should be considered the beginning of e-administration. It was then that the Scientific Research Committee, on the basis of seven expert opinions, developed a document, which appeared under the collective title "Global Information Society in the conditions of Poland's accession to the European Union". Today we know the material as an official document of the Committee for Scientific Research and the Ministry of Communications entitled "Goals and directions of development of the information society in Poland". In 2000, the Sejm passed a resolution on building the information society, and then in 2001 adopted acts important for the development of e-administration: introducing the Public Information Bulletin, the Act on access to public information and the Act on electronic signature regulating the issue of e-signature. The next step in the development of e-administration was the development of the e-Poland document, containing an action plan for the development of the information society in Poland, which was modeled on the European e-Europe development plan. This document was updated in 2002. The next version of this strategy was called ePoland-2006. The

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[431] M. Kraska, *Electronic economy in Poland*, Biblioteka Logistyka, Poznań 2005, p. 185

adoption of this document resulted in the preparation by the Scientific Research Committee of the preliminary concept of the Gateway to Poland project (a central IT system whose task was to provide administrative services for citizens and business entities by electronic means) and the document The Strategy for Informatisation of the Republic of Poland – e-Poland.

The main task of the Central Gateway to Poland system under construction was to place in the web and ensure online access to all state administration services with IT facilities. The most important functions that this system is to perform are:

 – improving the flow of information to the citizen,
 – ensuring the possibility of settling matters between a citizen, or an economic entity and the government by electronic means,
 – the possibility of submitting applications for issuing documents via the Internet,
 – facilitating access to medical and insurance data,
 – online information exchange between offices.

The Gateway to Poland project was the first attempt to implement the European Union recommendations announced in the eEurope 2005 program in practice[432].

E-administration, as defined by the European Commission, is the application of information technologies in public administration. It is connected with organizational changes and new skills of public services, which are to improve the quality of services provided by the administration. E-administration is a continuous process of improving the quality of governance and providing administrative services by transforming internal and external relations using the Internet and modern means of communication. External relations include office-citizen relations, office-economic entity, and office-service provider relations, while among internal relations we distinguish office-office and office-employees[433].

The purpose of creating e-administration is to increase the effectiveness of public administration in terms of providing services. E-administration is to simplify the handling of official matters and enable obtaining information. The adopted form allows for gathering in one place matters belonging to the competence of various public administration units, and making their procedures available on the Internet.

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[432] eEurope 2005: *An Information Society for All. An Action Plan* (Sevilla, 21–22 June 2002) [COM (2005) 229 final].
[433] D. Bogucki, *eGovernment in the European Union, "e-Administration",* No. 1/2005, p. 4.

CHARACTERISTICS OF E-ADMINISTRATION

E-administration services should be tailored to the client's needs. Customer orientation is possible thanks to the coexistence of personal contacts, and access to various devices, such as the Internet, information newsstand, TV, mobile phone with WAP, etc.

The use of information technology in the office should consequently lead to:

- time savings (entrepreneurs', citizens', officials'),
- capital savings (entrepreneurs', citizens', officials'),
- increasing the functionality of the services provided,
- increasing the scope of information,
- increasing the transparency of administrative procedures,
- elimination of errors (a correctly programmed system works according to the introduced algorithms),
- improving accessibility (office open 24 hours a day, 7 days a week),
- integration of internet resources (ONE STOP SHOP),
- an objective, not a subjective approach (what matters is what we do, not with whom we do it), oriented towards the citizen and the entrepreneur.

Among all public services, the local government administration is the leader in developing electronic contact platforms, as it is responsible for handling the most important public services.

In the European Union, there are administration services that citizens can use online.

For natural persons, these are:

- income tax,
- job search agency,
- social security,
- issuing identity documents,
- vehicle registration,
- issuing building permits,
- receiving reports to the police,
- access to resources of public libraries,
- issuing birth and marriage certificates,
- submitting candidates for universities,
- change of residence,
- health service.

As for economic operators, services cover the following areas:

- social security,
- income tax,
- VAT,
- business registration,
- statistical data resources,
- customs declarations, permits and certificates,
- public procurement.

The above-mentioned services provided by electronic means constitute some kind of guidelines. In Poland, the list of services that are ultimately to be available on-line has been slightly modified and, in accordance with the draft version of the Gateway to Poland project, it is as follows:

- income tax settlement,
- searching job offers and help in finding a job,
- obtaining the right to unemployment benefit,
- obtaining the right to a pension,
- obtaining the right to a retirement pension,
- obtaining the right to other payments from Social Insurance Institution (benefits),
- obtaining the right to a student scholarship,
- obtaining an ID card,
- obtaining a driving license,
- obtaining a passport,
- vehicle registration,
- obtaining a building permit,
- reporting to the police, e.g. theft,
- access to and search directories of public libraries,
- reporting to the Registry Office of the facts subject to registration, and obtaining copies of records,
- submission of documents for admission to studies,
- change of the place of registration,
- making an appointment with a doctor.

Thanks to the efficient system of identification of citizens and business entities, entry into force of the electronic signature and integration of the application, a visit to the office of a person who wants to arrange any of the above-mentioned subjects does not have to be necessary.

Depending on the degree of communication between the office and the residents and the type and complexity of the services provided by offices by

electronic means, four levels of maturity of e-administration services can be distinguished:

- – Information – offices publish information on their websites, and residents, browsing the offices' websites on computers, or in special information kiosks, obtain the necessary information,
- – Interactive – the user can communicate electronically with individual offices, but offices do not always communicate with the user via the Internet,
- – Transactional – the user can communicate electronically with individual offices, and the applications of offices electronically respond to him,
- – Integrative – portals for a specific purpose provide information from various offices, and enable the execution of transactions. Internal systems have been integrated on the basis of algorithmic administrative processes.

The level of integration makes it possible to perform all activities necessary to settle a given official matter electronically – from obtaining information, through downloading appropriate forms, and after completing them, returning them via the Internet (sometimes filling in online forms on the website), to paying the required fees and receiving an official permit, certificate, decision, or other document requested by the person.

E-ADMINISTRATION – DEVELOPMENT FACTORS

Gartner and European Commission e-administration development stages

Electronic administration (also e-administration) – public administration that uses information and communication technologies to improve the quality of public services.

Gartner distinguishes the following stages of e-administration development:

1. (Presence): websites presenting only information,
2. (Interaction): limited interactivity, basic search, simple search, page links,
3. (Transaction): portals, e-public procurement, self-service applications,
4. (Transformation): CRM12 applications, personalization, elections, and voting.

In contrast, the European Commission (the "e-Europe" initiative) defines the following stages:

1. (Information): online information about public services,

2. (One-way interaction): downloading forms,
3. (Two-way interaction): processing of forms, including authentication,
4. (Transaction): portals, public procurement, handling application cases.

In both the Gartner and the European Union models, higher stages of development are based on lower ones. It should be noted that while both models recognize four steps, EC step 4 (Transaction) corresponds to the combination of Gartner steps 3 (Transaction) and 4 (Transformation).

Due to the fact that the two models are largely comparable and that they also overlap, one proposes to combine them. In this way, we identify the following stages:

− Stage 1 (Attendance): websites, available twenty-four hours a day, presenting only information about public services,

− Stage 2 (Simple interaction): simple search, links to pages; downloading forms,
− Step 3 (Intelligent interaction): form processing, including authentication,
− Stage 4 (Transaction): handling cases; decision and delivery (payment), CRM applications, personalization, elections and voting, public procurement.

According to various experts, the implementation of all these stages may take at least 5 years. It is for this reason that the ambitious intention to develop a full eGovernment will require continuous efforts by all stakeholders. The aspirations to reach the highest stage of e-government development are now typical of many European countries. As Stage 4 is currently under investigation and innovative collaboration procedures will be developed, both among government agencies, and between government and citizens / businesses, new perspectives may emerge. E-administration also aims to improve democratization and builds the information society.

E-administration means the use of information and telecommunications technologies in conjunction with organizational changes to improve the quality of services provided by public institutions and streamline their functioning.

This means first of all transferring most of the tasks carried out by government institutions to the electronic level, to which the greatest possible number of citizens should have access.

Electronic administration is also the automation and computerization of the existing procedures, based primarily on paper documents, and a change in the approach in the style of governance, strategic planning, debating,

communication with enterprises and the society. One of the first impulses in the development of e-administration in Poland was the introduction of the possibility of creating a secure electronic signature through the adoption of the Electronic Signature Act on September 18, 2001. It was prepared on the basis of Directive 1999/93 / EC of the European Parliament and of the Council of December 13, 1999 on a Community framework for electronic signatures.

The most important features of the information society and the conditions for their use of e-administration solutions include:

- emergence and increase in the number of information-based products,
- widespread use of information technology,
- a continuous increase in the number of messages and information channels,
- increase in employees in the implementation of information-related operations,
- universal access of societies to various types of communication and information techniques, the Internet,
- the existence and functioning of a network giving access to all operators and service providers,
- the ability to connect and process data,
- the growth of the service sector in the economy, the development and growth of the use of communication and information techniques in the sectors of finance, insurance, etc. and, inter alia, in the health, science, and education sectors,
- increasing importance of scientists and specialists in the professional structure,
- the growing importance of theoretical knowledge as a source of innovation and policy,
- striving for the controlled development of technology,
- striving for compatibility of cooperation of all devices, regardless of the location of the operators operating them,
- creating and using new technologies as the basis for making political and social decisions.

CONCLUSIONS

The last few years have been characterized by an unprecedented pace of development of the information society and new technologies. According to the research published by the Central Statistical Office in 2019, the percentage of

people aged 16-74 using public administration services via the Internet in the last 12 months was 40.4%, i.e. 4.9 percentage points more than in the previous year. In 2019, 86.7% of households had access to the Internet, which was 2.5 percentage points more than in the previous year. Over the year, the share of households using the Internet via broadband Internet connection increased by 4.0 percentage points.

40.4% of people aged 16–74 contacted public administration via the website. Both the access to the Internet and the type of Internet connections possessed varied according to the type of household, the class of the place of residence and the degree of urbanization. Households with children had access to the Internet more often than households without them. Taking into account the class of place of residence, the percentage of households with the Internet was higher in cities than in rural areas, and due to the degree of urbanization – it was the highest in highly urbanized areas. The same was true of the use of broadband Internet connections.

This creates the conditions for the development of a completely new form of communication between commercial entities, public administration, and natural persons. Especially in the sphere of citizens' contacts with public administration, one can observe the beginning of a revolution. The purpose of the changes is to enable applicants to settle virtually all matters via the Internet – without the need to visit a given office in person.

Potential benefits of e-administration for citizens and businesses include:

    a) convenience (availability of the office at any time and place; everything in one place; quick reactions);
    b) better quality of customer service;
    c) access to more and higher quality information;
    d) in particular for companies: lower operating costs.

Potential benefits for offices include:

    1. higher overall effectiveness due to:
        a) the continuous presence of the office online, which ensures the delivery of more, better structured, easy to find information not requiring understanding of the way the office works;
        b) provision of bundled services;
        c) better information on citizens and entrepreneurs.
    2. greater efficiency due to:
        a) lower cost of servicing;

b) improved business processes;
c) automating tasks involving large paper use and probability of errors;
d) enable smarter and faster handling of exceptions;
e) providing real-time insight into inefficient stages of service provision.

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