Implementation of High Technologies in Romanian Public Administration

ROZALIA NISTOR, COSTEL NISTOR, MIHAELA-CARMEN MUNTEAN
Department of Economics, Faculty of Economics and Business Administration
“Dunarea de Jos” University of Galati
59-61 N. Balcescu Street, Galati
ROMANIA
rozalia.nistor@selir.com; cos_nis@yahoo.com; mihaela_c_muntean@yahoo.com
http://www.feea.ugal.ro

Abstract: In the context of Romania’s accession to the European Union, especially in financial and economic crisis that we are in, public administration must take their own measures of restructuring, modernization and efficiency of work done with as small a consumption of economic, financial and human resources. Romanian Government actions to reduce the budget deficit have resulted in a series of measures aimed at reducing public expenditure by central and local government. Reducing costs is necessarily accompanied by more efficient activity, and this can be achieved only by increasing productivity of employees in public administration, which is possible with modern computing.

Keywords: public administration, automation, information society, Electronic Data Interchange, Electronic Document Management, info-kiosk

1. Introduction
The initial premise of this work is very simple: the modernization of public administration can be interpreted as a success only if it is felt that success in the modernization of the administration interface with citizens. In the XXI century, increasing expectations of citizens from the public sector, the emergence of new technologies, individualization, delegation and decentralization, financial pressures and trends of internationalization, demographic developments have become drivers of change. We see different developments of the system of public administration, public service and citizens worldwide. "The old administration" no longer corresponds to technological change, internationalization, demographics and modern governance in general.

The functional, efficient and flexible modern public administration is a prerequisite for the structural transformation of Romanian society to achieve a profound reform in all areas of socio-economic life, the growing role of citizens in making decisions. Strengthening local administrative and financial autonomy, to improve the legislative framework, harmonization with EU regulations will be, largely, a change of the relations between the administration and citizens, putting in far greater emphasis on efficiency. Successful public administration reform is possible only by establishing a relationship between individual and state, based on responsibility. The state offers citizens opportunities and demands, instead, responsibility.

Citizens are becoming more demanding and are often very sensitive to measures designed to make the services of state administration less procedural and more emphasis on meeting the needs of citizens. Their expectations about public services are becoming more demanding, while new information and communication technologies offer real possibilities of rapprochement between the administration and users. The operation of a modern public administration, flexible and efficient is a prerequisite structural transformation of the Romanian society to achieve a profound reform in all fields of socio-economic growth of the citizen's role in making decision.

Public policies are administered through the increasingly complex structure, the decentralized governance structures, public-private partnerships and cooperation between NGOs, consultants and government. Concern of governments, the executive powers of government to act, in order to meet the public interest, public need realistic dimensioning, lower public spending and improve the quality of public services were the premises of public sector reform. In transforming this administration in a "service" subject to the rigors of the market and public market players ‘client’ is constituted in the late twentieth century, a priority objective of modern governance, a goal which we meet today, conditioned evolution of the economical, social, political, financial, such as: budgetary pressures, with emphasis on improving service quality as a means to reduce costs or to "do more with less expenditure", a more demanding public, which wants to receive better service and have a say on these services. In the context of Romania’s accession to the European Union, government must take their own measures of
restructuring, modernization and even rethink the role and functioning in especially under the conditions required by the information society. Romania joined the European Union 1 January 2007, covering the transition from central planning towards market economy and convergence with EU standards and practices. Romanian government in the last 18 years has seen a radical transformation process from a specific government a totalitarian regime to a democratic regime.

New institutions and regulations have been promoted, including through pre-accession funds of the European Union and other donors in order to restructure and streamline administration. State institutions have made significant progress in modernizing the legislative and administrative foundations of the functioning of the public sector and it is prepared to assume the obligations of membership of the European Union.

In 2004, the Romanian Government developed the "updated strategy to accelerate public administration reform, and the European Commission approved the document. However, these improvements are not sufficient; the European Commission was calling for putting greater emphasis on strengthening the administrative capacity for membership. The need for investment in administrative capacity is recognized as "Community Strategic Guidelines for Cohesion", the administrative capacity and good governance is one of the main priorities for the period 2007-2013.

In the process of reform, public administration suffers major changes, restructuring, staff reductions or additions. New regulations appear aimed at increasing government transparency and alignment with European standards of quality for services offered to the citizen.

Adoption of laws does not automatically ensure the problems they seek to respond. Along with the development of law that should end with the achievement of the expected effects is interposed a relatively independent variable of great importance, with its own specific regularities and mechanisms of operation: public administration. Accordingly, the functioning public administration can provide and enhance the positive effects of implementing a government policy or the application of laws or, conversely, may block it.

2. Automation of office work

Through the development of computer technology, modern communications systems and software products, have become increasingly accessible, computerized data processing have become a professional asset in a universal tool. In this context, computerization of office work has become increasingly important and began to be referenced by the generic name of “Birotics”. This field studies the techniques of computer concepts and computer software products that provide office automation activities.

Office automation has radically changed the way most businesses work with employees. The current trend is for the companies to increasingly use less paper which will be replaced over time by the electronic media. This transformation was the result of systems development, which connects via electronic communications networks, word processing and image processing with other new information technologies.

Business automation systems (OAS) are systems based on communication systems that collect, process, record and distribute electronic messages, electronic documents and other forms of electronic communications between individuals, groups and organization. These systems allow individuals to meet to discuss various business issues, without requiring their physical movement. They improve employee collaboration and productivity, significantly reducing the time and effort to produce and distribute information.

The main types of business automation systems (OAS): electronic publishing systems, electronic communications systems, electronic collaboration systems, image processing systems and electronic task scheduling systems.

A. Electronic publishing systems have turned firm offices into real offices printing firms performing the documents necessary to conduct any business. Word Processing is the most common computer applications found in offices across firms. Word processing involves manipulating textual data (characters, words, phrases, paragraphs) to produce commercial documents such as letters, reports, forms etc.

Multimedia technology has allowed the use of both text and images data, sounds, animation, so companies can create and print ads, brochures and other publications in a special presentation. To obtain a high quality printed documents, a company must invest in high performance computers that have advanced graphics capabilities.

B. Electronic communications systems are central digital nervous system of performance organizations. Applications such as e-mail systems, voice mail, bulletin board systems and videotext enable organizations to send messages in text, voice or video or send copies of documents in seconds using telecommunications networks.

a) Email has changed how people work and communicate. Millions of end users depend on this application to send and receive electronic messages. Just a few minutes of effort (and a few
seconds of transmission), a message for one or more recipients can be written, sent and received. Most companies today can not conceive activities without access to Internet. Currently e-mail accounts provide security by password, can store messages in files designed specifically, the ability to attach files and ability to share posts into two categories: message received from individuals or organizations to which the user has subscribed and unsolicited messages ("spam"), in creating this anti-spam filters.

b) Voice mail is a variant of the e-mail messages and is used for digital voice. In this case the beneficiary of such applications must consist of a number of voice-mail service and to introduce an identification code. Once accepted this code, the person can speak to the person contacted by this application. Voice messages can be recorded in your e-mail. The advantage of this application is lower cost phone in case of remote communication.

c) Bulletin board system is a telecommunications service offered by Internet. Such a system allows a company to display public or private messages that end users who have a right of access can view them. A bulletin board allows users to ask questions, receive advice, to come into contact with certain people. Such systems are often used in relations with suppliers and customers.

C. Electronic collaboration systems are known as electronic meeting system (“Electronic Meeting Systems” - EMS). They involve the use of audio and video communications that facilitate the conduct of business meetings. Thus, participants in a conference or meeting that any kind of business does not necessarily have to move. One of the most commonly used forms is teleconference meetings, in which the working sessions are conducted in real time. Also, these systems are frequently using groupware software applications, which will be discussed extensively in the last chapter.

D. Image processing systems have a dramatic increase in the activities of office automation and allow end users to receive record and process images of documents. Electronic Document Management (EDM) technology is based on the images. For example, a payment document can be scanned, indexed by the management system of databases containing image files and sent to the recipient. The implementation of such image processing systems has led to increased productivity and significant savings.

E. Electronic task scheduling systems
Task Scheduling Electronic Systems (ETSS) include electronic calendars, files warning data, software for planning activities etc. They provide a real support for managers at all hierarchical levels in organization and planning of their activities. For example, a manager can bring on a business meeting in an electronic calendar. A file will insert a warning on the screen with a business day before the meeting agreed. Also, delegation of responsibilities and monitoring how they are achieved may be facilitated by such systems. The primary objective of office automation business is to increase quality, productivity and flexibility by automating office business work. Computerization of office work causes other economic and social effects:

• eliminate or significantly reduce physical and intellectual effort required for manual processing of information;
• elimination of effort required reading and control the accuracy of documents received or sent;
• reducing the time of reception, processing and transmission of information in administrative work;
• increase the accuracy of information processes, memory capacity and speed of information retrieval;
• decrease in the cost of information and that the latter decision is based.

3. Birotics in Romanian public administration
Nationally, the issue of information society, with direct involvement in public administration must be addressed on several levels, which have interrelated influences (Figure 1).

Fig. 1 is the way in which the five components must interact to increase awareness and communication, quantitative and qualitative level of services delivered by local citizens and business community, the primary role to play to be the industry information technology, including scientific research, to find solutions suitable for modern challenges facing public administration.

Figure 1 illustrates how the five components must interact involved in raising awareness and communication, quantitative and qualitative level
of services provided by government and business community of citizens, the primary role should industry play information technology, including scientific research, to find solutions suitable for modern challenges facing public administration. Government must take measures to ensure optimal framework of activities to meet the needs of the actors involved. In these circumstances it is necessary: the expansion and modernization of the national information infrastructure, developing applications and services based on the convergence of information technology, communications media, enabling consistent and coordinated computerization of institutions of central and local government, improving public services and achieve interaction civil society with government through appropriate electronic means.

For the local government is important the creation of electronic means to facilitate the computerization of administrative structures and actors with whom they come into contact.

Thus, it is considered: the use of public electronically information centers for citizens, using touch screen kiosks, one stop shops, mono or multifunctional electronic cards, electronically financial reports, e-mail, Web pages, electronic auctions, digital signature, videoconferencing, electronic voting, digital cities, civic networks, online government.

A. Automation activities in government offices.

As an alternative for work at a fixed place, appeared virtual office (tele - work).

Virtual office is a service that allows custom configuration for each user for all activities taking place in the office: contacts, calendar, tasks, appointments, document management, forums, chat and mail. For mobile phone owners, these services may be available on WAP. WAP services for clients include consulting personal account, mail consulting, and access to their own organizer and to a various other useful information.

A virtual office in the government covers the following tasks:

a) coordinating and supporting the work of local councils: the computerization of business administration and public services subordinate staff training for computer literacy;

b) development in collaboration with County Council departments, the program for works and activities that will be executed by computers and its submission for approval;

c) collaboration with specialized institutions and local councils in developing local studies and regional computerization;

d) establishing or participating in the development, testing and operation of programs and applications using the supplied computer systems etc.

B. Assisted cooperative work. The need for efficient collaboration in the development of scientific projects by different people from different places and different fields of work or interpersonal cooperation in economic organizations - government, has led to new ways of developing joint projects and solving burden by assisting cooperation by the computer. That is why Computer Supported Cooperative Work (CSCW systems) appeared.

CSCW systems allow greater use of information sources and finding ways of resolving conflicts between various people priorities involved in the cooperation and ways of working beneficial to each party. This is how CSCW working groups (groupware) appeared.

The term groupware describe electronic and software technologies designed to ensure the collaboration between people in different groups. Groupware is based on communication (information sharing), collaboration (working together participants) and coordination (integrating individual works in a joint paper with integrated character).

At the working level for economic and administrative units, CSCW systems must meet the following functional requirements: operating systems to allow collaboration by customer, network and server, to enable mobile working and remote system, to provide interaction between different administrative entities.

CSCW systems for economic and administrative organizations will only work if you take into account the realities of the working mode of communication between staff and the units participating in the cooperation.

C. Info-kiosks. Ensure efficiency and transparency in government activity has resulted in systems that facilitate info-kiosk type, on the one hand information to citizens and business society and freeing the other hand a number of civil servants routine activities. They provide for the exchange of information both locally and nationally or internationally.

Info-kiosk is an information portal, a geographically distributed system, automated information, easy to use for citizens and businesses. It allows upgrading, increased transparency and accessibility to government activities. Its use can be made both by the specific info-kiosks interface and the Internet through their standard browser. Info-kiosk system objectives can be grouped into two categories:
a) objectives aimed at governments and organizations providing services to citizens and business community (efficiency in relation to the citizen - administration, reducing the workload of civil servants, reducing administrative costs etc.).

b) targets relating to improving the business relationship or partnership with national governments (providing consistent data, consistent and timely; conscious citizen participation in community life, to familiarize citizens with new ways of electronic-based information technology).

Using info-kiosks will produce benefits that can be summarized as follows:
- creating and providing citizens with an integrated information system in areas of social, cultural and economic;
- proximity and involvement of citizens in the governing process easy electronic access to information;
- informing citizens about the rules and regulations specific to local business tax administrations;
- submission of documents and steps that citizens must go through in solving a problem, in accordance with laws and regulations in force;
- can complete the official forms online;
- update data continuously;
- retrieving relevant documents via a search function;
- use monitoring system by collecting and reporting statistics on how it is used.

From the point of view of access, info-kiosk contains public and private data. Info-kiosk system is based on an architecture which respects the principles of distributed solution, extensible open architecture, scalable design, stable and secure operating platform, and availability of solutions through both info-kiosk and the Internet.

Info-kiosks are integrated into various information systems and liaises with local or central database, including the central data warehouse, allowing access to information, provision of documents and can even extend them, pay various fees and taxes etc. (Figure 2).

**D. Other top technologies used in Public Administration**

a) Civic networks – their use is another coordinated of computerization in the public administration. They are generally low-cost community networks, easier to use to allow citizens access to e-mail, newsletters and information relevant to the community. At present, civic networks tend to overcome social objectives and become strictly a more sophisticated allowing access to the Internet or GIS (Geographic Information System) etc. Civic networks must be designed as public information networks created and maintained by local agencies in collaboration with community leaders, interest groups appropriate local colleges and universities.

b) WWW (World Wide Web) - maintained by public agencies tend to become more a public relations vehicle for the outsourcing organization.

c) Electronic documents – is a method to simplify the work in the public administration. This involves the completion of all electronic government documents, on-line by citizens and their transmission. Citizen is allowed to complete one online form; the information contained therein is automatically transmitted to each government department involved in solving the problem in a way that is transparent to the citizen.

d) Electronic Signature. When creating electronic documents must be considered the building of electronic signature to certify their authenticity. Electronic Data Interchange (EDI-Electronic Data Interchange) - which can increase the efficiency of common operations, everyday and may improve relations with its external partners (business, financial and economic institutions and various other government), minimizing handwritten transactions and interactions human and redefining data, printing and sending documents by mail or fax.

Public administration activities handled through EDI are represented in Figure 3.
f) **E-commerce** - trading goods and services can be achieved through electronic means. Electronic commerce means any financial transaction using information technology and offers several types of transactions, some active, others pending: waiting: business-to-business, business to consumer, business-to-administration, business-to-employee, consumer-to-administration.

- Business to Business (B-2-B) includes all transactions are carried out between two or more business partners.
- Business to Consumer (B-2-C) is an e-commerce category has expanded greatly due to WWW and refers to the relationship between retailer and end consumer.
- Business-to-Administration (B-2-A) covers all transactions between companies and local and central administrative authorities.
- Business-to-Employee (B-2-E) refers to transactions for staff of an organization and carried out by its own Intranet system.
- Consumer-to-Administration is a trade group for the field of social aid or compensation payments set after calculation of global income.

g) **Electronic auctions.** In public administration, for full transparency in the procurement of goods, requires the development of electronic bidding. European Commission encourages pilot projects that highlight the electronic exchange. Our country has taken a number of projects on electronic auctions even mentioning the requirement for budget units to make such purchases through auctions.

h) **Smartcards.** In the computerization of public administration should be considered smart cards, used in making all types of payments (health - to pay the doctor or healthcare institutions, payroll, procurement, etc.) electronic voting etc.

i) **Digital City.** To improve administrative, in its entirety, it is required the concept of Digital City (Intelligent City, Digital City). This is a modern way of administration which is based on ICT and contributes substantially to saving vital human resource - time, gradually eliminating bureaucracy in public institutions.

Implementation of a virtual community (digital city, digital county) shall be based on a strategy that includes communication channels, transfer standards, educational support, maintenance facilities, and legal arrangements to control access to databases. Citizens of such a community have a full range of electronic services provided on-line (e-mail, e-commerce etc.).

j) **Online Government.** Lately it is considered the Online Government concept, which aims to use ICT in government operations. Online governance objectives:
- creating information available/deliverables, by providing involved parts with database, web pages and sites of municipal government;
- facilitating feedback;
- facilitation of discussion groups.

### 3. Conclusions

Stationery was born from the need to integrate tools and techniques and office administrative work with the techniques of communication and automatic data processing, aimed at increasing performance and quality of office work in any field. From another perspective, more recent coordinates adapted to the information society, office is emerging as flexible process automation applied to the most important place in society today and tomorrow: OFFICE. Office automation systems facilitate processing, dissemination and coordination of information, the raw material of all office activities. By this, the removal of bureaucratic nightmare is creating premises to meet people expectations.

**References:**

[7] [www.cjmures.ro](http://www.cjmures.ro)
[8] [www.euro.ubbcluj.ro](http://www.euro.ubbcluj.ro)
[10] [www.ramp.ase.ro](http://www.ramp.ase.ro)
[12] [www.scritube.com/administratie](http://www.scritube.com/administratie)