

ASSESSMENT THE DEGREE OF E-COMMUNICATION BETWEEN STATE ADMINISTRATION, CITIZENS AND BUSINESS

Maria Nikolova

New Bulgarian University

*e-mail: nikolovamaria@hotmail.com; mnikolova@nbu.bg
Bulgaria*

Abstract: Assessment and measurement of e-readiness and e-participation is main factor for evaluating e-communication of business and citizens with state administration. The most indicative are financial e-services offered from administration. The paper applies statistics for the level of development e-communication in Bulgaria.

Key words: e-readiness, e-communication.

1. INTRODUCTION

The development of new way of communication between institutions in state administration and business includes electronic transactions of data, information, documents, money, services. The main area of communication for business and administration is financial transactions. The financial sphere may be researched in depth because of possibility to formalize the actions and for quantity measurement of results. Despite of this conclusion the measurement of level of communication is presented with the degree of visits of administration sites without interest what activity is done after the visit.

Since administrations obviously have limited goods to sell to the citizen or business, compared to the private sector, it is expected to see the most e-communication applications in the areas where funds exchange hands — taxes, licenses and permits, and procurement. While most of the private sector activity on which these new efforts are modeled involves business-to-business service delivery, their experience with business-to-consumer activities can be used as a model to en-

hance public sector government-to-citizen activities as well as the current dominant government-to-business model.

2. E-COMMUNICATION IN PUBLIC SECTOR

Obviously, a significant difference between the public and the private sectors is that the public sector primarily exchanges information and does not always charge for the information, although some goods do exchange hands. The definition of e-communication within the public sector therefore relies upon not just the transfer of goods and services but must also include exchange of information and services.

The public sector has already developed many e-communication applications. The precursor to e-communication in government is the development of interactive online services, or e-services, by government.

There are many different types of financial transactions possible in the public sector, and government had to do an admirable job of providing access to these in an online environment. Taxes, fees, permits, and purchasing opportunities are all examples. Online examples of these services are provided below.

2.1. Simple financial transactions or “Classic shopping cart model”

Government simply does not engage in as many straightforward financial transactions as does the private sector, but there are some examples of how public agencies are utilizing e-communication technologies to simplify government services for their citizens and business.

2.1.1. Purchase of birth or death certificates online

One crucial financial transaction in which citizens interact with their governments is the purchase of certificates — birth and death certificates in particular or ordering official marriage and divorce records online. In (www.vitalchek.com, 2008) is illustrated how an outside contractor is providing the technology and setup for these transactions. The practice of administration for outsourcing e-services should be successful in Bulgarian environment too. The obstacle of providing these services yet is the lack of legal standards and having the habit to trust only to paper certificates.

2.1.2. Online license and permit fee payments

Online fee, permit, and license payments are another type of e-communication application for governments, as they are one of the most frequently used services in which citizens pay their governments a fee. There are already many applications

available in this area and many more being developed. In (www.ct-clic.com, 2008) a complete online licensing center currently provides searchable information on over 900 licenses, permits, and registrations, has downloadable PDF format forms, and is planning to provide interactive order forms online.

In the site of the Bulgarian Commission for protection of competition (www.cpc.bg, 2008) are available in text format online notifications - Notifications of the Law on the Protection of Competition.

2.1.3. Online driver's license and vehicle registration renewals

According the tendency to facilitate administrative services of business and citizens is realized the information system of Ministry of Internal Affairs. It delivers e-services and is supported by Phare Program. The proposed services are issuing documents for vehicle registration (http://news.ibox.bg/news/id_711965733). The future online services will include online registration of application for renewing duplicate certificate for vehicle registration in case of theft or lost. All services should be available when used e-signature is.

Once they have their registration renewal form and credit card, users renew their vehicle registration online at the site. Users enter the information about their car, the appropriate fee is calculated and viewed, and the fee is paid via the credit card or payment system for online payment like ePay.

Massachusetts was one of the innovators in the area of providing e-communication services to citizens. Their Express Lane services (www.state.ma.us/rmv/express) provide users with the ability to complete a wide variety of motor vehicle-related tasks — change their address, renew registrations, request duplicates, order special license plates, or pay their citations online. Users pay with a credit card for these services through a site providing a secure system of transactions.

2.1.4. Online Tax Submission

National Revenue Agency (NRA) supports on its site online e-communication services for business and citizens. The users of e-service should have digital certificate valid for transactions with State administration in Bulgaria, issued from a Certificate Agency. For the e-service Payment of obligations the digital certificate is not needed.

The online services of NRA available now are applications of Declarations for incomes, Notifications, Documents for VAT, presentation of Intrastat declaration, and request for documents. The statistics for the 2008 is that approximately 40000 companies had applied online their communication with NRA (D. Stefanova, 2008). The tendency is for increasing the corporate bodies that are using Internet for communication with NRA. The government encourages online communication with reduction of 1% from the tax due for companies. According the research published by Alpha Research Agency (www.aresearch.org, 2008), only 8% of citizens which

makes 500 thousands persons are using e-communication with state administration in Bulgaria. These citizens are usually between 18 and 40 years old, with university education, with higher social status. The question is that major percent of citizens never know that a portal for e-government administrative services is available.

The tendency for further development of e-communication with the state administration in Bulgaria is that from October will be possible payments to the state administration via new site which should be connected with most of the banks.

The current situation is that NRA submits to its users of online services program products they need for e-communication. The user may download free the code of the specific software for the exact e-service. It is available already Specification for input files about the software product, User Manual, Installation Manual.

2.2. Aggregators of Vendors — Shopping Malls

There are several major procurement projects in the public sector involving vendor aggregator sites. One project is the U.S. Department of Defense's EMALL (DoD) which is most successful online applications for a collection of sites brought together with a common database and user interface

(<http://xml.coverpages.org/BEA-DoD-EMALL.html>).

DoD EMALL, which is built on BEA WebLogic Integration 8.1 is the Defense Department's worldwide commerce portal, processing more than \$188 million in transactions annually. Among the key enhancements in the DoD EMALL is the use of the electronic communications using eXtensible Markup Language (eXML) standard for secure, reliable messaging between online partners. DoD EMALL is one of the largest online operations ever to adopt eXML, which is designed to allow the web site to retry actions that are aborted or fail and confirm message receipt to ensure non-repudiation while helping to complete transactions faster. eXML also helps facilitate the use of digital signatures to verify message authenticity and help to ensure message integrity. eXML is protocol independent so that it can be used regardless of the means by which an interaction is taking place (email, FTP, http, web services).

DoD EMALL makes extensive use of modeled procurement processes and workflows developed, a full-featured Java development environment optimized for SOA and it also leverages the business process management (BPM) capability of BEA WebLogic Integration to help orchestrate and streamline the flow of messages and application interactions.

2.3. Auctions of Government Surplus Goods

Some jurisdictions and private providers are experimenting with the use of online auction technologies to get rid of surplus government goods. The U.S. General Services Administration is planning an online auction site

(<http://gsaauctions.gov/gsaauctions/gsaauctions/>) at which surplus property could be sold. To accomplish this, they have hired American Management Systems Inc., an outside contractor. A so-called dot.com company (a private sector firm offering e-government services), gov.com, offers government property for auction on the Internet. This allows users from all over the world to bid on surplus property from governments across the country. A recent offering (May 2008) showed the most numerous items are 138 vehicles and 98 items computer equipment available.

2.4. Value-Added Services

An example is Illinois state where is running an electronic subscription service to facilitate the purchasing process. When contractors subscribe to the service, they receive reports, bulletins, and bidders' lists from the Illinois Department of Transportation via e-mail (<http://www.dot.state.il.us/dobuisns.html#contractors>). This service does directly support and facilitate the state's commercial activities and companies that do business with the state.

2.5. Online Premium Services Areas

Several governments have established password protected premium service areas that provide services, information, and e-communication activities for a fee. One example is Access Indiana's Premium Service (http://www.in.gov/subscriber_center.htm) site, where citizens may utilize databases and information for an annual subscription fee. Example is the access to Business Entity Documents. It is made search for an entity and request specific documents concerning that company online from the Secretary of State's office. The received registered agent information and much more is for only \$1 per search. Certificates of existence are available for \$20 per certificate.

2.6. Government Portal Sites

Government portal sites bring together many services and agency websites onto one site.

The government portal site is <http://www.egov.bg>. Designed as a multiple-page portal and comprehensive search engine for all state websites, this site is completed with databases.

3. E-READINESS AND E-PARTICIPATION - FACTORS FOR ENLARGING E-COMMUNICATION

E-participation has the potential to establish more transparency in government by allowing citizens to use new channels of influence which reduces barriers to public participation in policymaking. E-participation is one tool that enables govern-

ments to dialogue with their citizens. By enhancing government's ability to request, receive and incorporate feedback from constituents, policy measures can be better tailored to meet the needs and priorities of citizens. Citizens now expect to be directly involved in designing government programs and services. At the various stages of the policy process, from elections to policy planning and implementation, citizens are becoming increasingly involved, through various participatory tools, such as focus groups, design sessions, hands-on testing and e-participation tools.

Usually countries invest resources in developing websites that are informative. Most countries have e-information on policies, laws and an archive section on their portals/websites. How a country can access and realize this potential is measured in the Tab. 1 (United Nations, 2008). Bulgaria is on 43rd position of total 70 countries in this survey.

Table 1

<i>Rank</i>	<i>Country</i>	<i>E-government readiness index</i>
1	Sweden	0.9157
2	Denmark	0.9134
3	Norway	0.8921
4	United States	0.8644
5	Netherlands	0.8631
6	Republic of Korea	0.8317
7	Canada	0.8172
8	Australia	0.8108
9	France	0.8038
10	United Kingdom	0.7872
.....
41	Ukraine	0.5728
42	Bahrain	0.5723
43	Bulgaria	0.5719
44	Greece	0.5718

Table 1. Position of countries in the 2008 e-Government Readiness Index

3.1. From Static Websites to Integrative Portals

The initial face of e-government is the website development, initially static in form but soon enriched to become a portal with online functionality and multiple purposes.

The state administration sites should have one or more of following four variations of what it means to integrate services (United Nations, 2008).

- All relevant agencies offering the same service in a common manner, sharing data definitions and at best sharing data, but no technological integration between the services being offered;
- Services are collected together under a common theme or event. The services are not inherently integrated, but are grouped in ways that aid discovery and promote the comprehensive completion of necessary services;
- Services are delivered by a single provider as an agent of other government agencies. Singular services are offered by the agent and the integration is hidden from the user;
- Services are technologically integrated into a supply-chain application. This requires the most sophisticated integration work and is not often implemented anywhere.

Whereas the first two levels represent the world of e-government as a service delivery strategy before 10 years, many governments today (especially in developed countries with the Internet widely available) are troubled with the latter two stages. New organizational and technological models for delivering services both online and via complementing, more traditional channels are taking hold.

Yet, after more than a decade of e-government developments under way, the general performance of electronic service delivery has been uneven and sporadic due to a range of other demand and supply considerations. The situation in Bulgaria is that there has been a huge uptake in government-sponsored websites for various forms of information. Beyond these one way information flows, the expansion of transactions fully executable online has been highly uneven across jurisdictions due to Internet access and a variety of technological and organizational factors within government authorities.

In the current time delivering of administrative services there is choice involved in conducting a purchase or transaction. Many users of government services do so only rarely and under an obligation of one sort or another. Often the most sophisticated users of online channels generally, are least likely to themselves interact often and directly with public sector authorities, in contrast to banking services.

3.2. Organizational paradigm for modern administration.

Networked administration represents an administration composed of independently managed units that rely on functions and resources provided by other such units or private companies, and form part of permanent and temporary cooperative structures.

Forms of collaboration among administrative units vary according to country and administrative tradition. Accordingly, an administrative unit decides for itself whether external services and functions are sufficiently attractive for the unit to use them or pay for this use.

E-government base is mix of the challenge of the Internet as a platform for new ways of organizing and new models and channels of service delivery.

The three interrelated and often overlapping phases of developing successful e-government communication are as follows:

- **Infrastructure:** Creating an information infrastructure both within the public sector and across society with Internet connectivity for citizens, businesses and all stakeholders in a given jurisdiction;
- **Integration:** Implementing the new infrastructure within the public sector in order to better share information (internally and externally) and integrate and deliver services through more efficient and citizen-centric governance models with multiple delivery channels;
- **Transformation:** Doing service innovation and e-government communications within government, across various government levels.

3.3. Security issues

Critical to the success is security. Security measurement is in fears about malicious acts, concerns about privacy and personal information and these issues are against government efforts to deliver services online.

Moreover, government services often differ qualitatively from those of the commercial business, with more obligatory relationships resulting in the collection of highly sensitive information across a wide range of entities and functions that collectively comprise the public sector.

In a new digital environment the risks for participation in digital environment are presented. To reduce the risks is a complex process that involves technologies, organizational policies and procedures, new laws and industry standards. Illustration of multi-layered nature of e-commerce security according (Garfinke and Spafford, 1997) is on Fig. 1. The conclusion is that for secure e-communication is required a set of laws, procedures, policies and technologies.

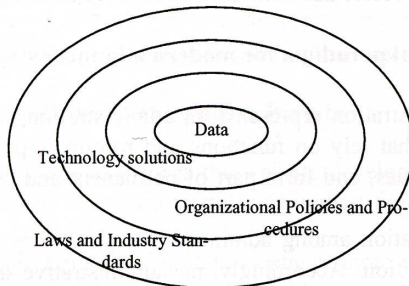


Fig. 1. Multi-layered nature of e-commerce security

4. STATISTICS FOR THE VISITS OF BULGARIAN MUNICIPALITIES WEB-SITES

The online communication of local Bulgarian administration with business and citizens is using municipality web sites. According a research (Sirkov 2008), in the country the coverage with local web sites is more than 95%. In the Table 2 is demonstrated the average daily number of visits of some web sites of Bulgarian municipalities (first 6 of 33 observed. The research is made in November 2007. The unique number of visits is accounted only.

Table 2

<i>Municipality</i>	<i>Site</i>	<i>Average daily number of visits, Nov 2007</i>
Sofia	http://www.sofia.bg/	1351,4
Bansko	http://www.bansko.bg/municipality/index.html	1098,8
Sliven	http://www.sliven.bg	548,3
Elena	http://administration.elena.bg/	437,8
Burgas	http://www.obstina-bourgas.org	429,2
Pleven	http://www.pleven.bg/	368,7

5. CONCLUSIONS

The state administration sites in Bulgaria are achieved level one and two according the classification in section 3. The given example in current publication is average number of visits of local administration sites. These sites are independent and doesn't exist technological integration between services offered in each of them. The sites of larger municipalities offer grouped services and publish necessary and most searched services.

E-communication in public sector from a point of view the financial transactions has reached a higher level comparing other types of transactions. In Bulgaria the services like online license and permit fee payments, driver's license and vehicle registration, tax submission are available and their number and depth will increase. Government portal site also is functioning.

Global survey for e-readiness and e-participation gives the conclusion that Bulgaria is on the second-half, 43rd position, in the list of 70 researched countries.

Actually is valid the trend that online presence of Bulgarian municipalities does not follow the common trends for spread of ICT to local areas.

REFERENCES

- Garfinkel, S. and G. Spafford (1997), *Web Security and commerce*, p.223, OReilly Publisher.
- Sirkov L. (2008), The visiting of municipality sites increases vastly in 2007, *CIO E-Administration*, v.1, p.32
- United Nations (2008), *From e-Government to Connected Governance. e-Government Survey 2008*, p.38, United Nations, New York
- <http://gsaauctions.gov/gsaauctions/gsaauctions/> Welcome to GSA Auctions® - *Your Official Link to Government Surplus, Seized and Forfeited Property*
- http://news.ibox.bg/news/id_711965733 Dimitrova Tz. (2008) *MIA starts online services*
- <http://www.aresearch.org/> Agency for Market and Social Research
- <http://www.cpc.bg/public/index.php?id=47>, *Online notifications - Notifications of the Law on the Protection of Competition*
- <http://www.dnevnik.bg/show/?storyid=490903>, Stefanova D. (28.4.2008), *E-services – “field of dreams” – around 40 thousands companies are applied online corporation tax declarations.*
- <http://www.dot.state.il.us/dobuisns.html#contractors>, Illinois Department of Transportation
- <http://www.egov.bg>
- http://www.in.gov/subscriber_center.htm Official web site of the state of Indiana, Subscriber Center
- <http://xml.coverpages.org/BEA-DoD-EMALL.html> U.S. *DoD EMALL Launches Secure, Reliable Messaging Solution* (Nov 08, 2004)
- <https://inetdec.nra.bg/>, National Revenue Agency
- www.ct-clic.com Welcome to the State of Connecticut’s Online Licensing Center
- www.state.ma.us/rmv/express The Massachusetts Registry of Motor Vehicles
- www.vitalchek.com We make it easy to order your official birth certificate online.