THE CHALLENGES OF E-GOVERNMENT 2.0 PROJECTS IN ROMANIA: AN INSIGHT

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Abstract:
E-government has developed rapidly and consistently along with the development of ICT. Providing reliable e-services resulting from successful e-government projects means tackling different challenges like transparency and accessibility, technological infrastructure interoperability, end-user adoption, citizen privacy, security and trust, policy updating, and organizational transformation. E-government 2.0 means innovation, transformation, communication, transparency, collaboration and participation, less bureaucracy, and less corruption. Also, investments in e-government 2.0 projects in Romania must meet the requirements of the strategic lines of development in the National Strategy on Digital Agenda for Romania.

Keywords: *E-government, Gov 2.0 projects, Challenges, Romania*

JEL Classification: *H7, H11, D81*

1. Introduction

In the last 15 years, e-government in Romania has developed significantly [8]; [11]; [12]. Many researchers focused on the theory of this multi-disciplinary field research matter of e-government [1].

The challenges and issues of e-government projects updated from the first e-government implementation efforts before the year 2000, to the recently started era of e-government 2.0 [5].

E-government involves the use of information and communication technologies to provide better public services for citizens, businesses, and other public organizations [10].

E-government 2.0 (or Gov 2.0) is "the next generation of e-government". While traditional e-government focuses on changes in technology, e-government 2.0 treats "citizens as not only users but active contributors to e-government" [21].

2. E-government and its challenges

E-government intends to "improve government decisions, increasing citizen trust in government, enhancing government accountability and transparency, accommodating the public will in the information age and involving stakeholders, including NGOs, business, and interested citizen in new ways of meeting public challenges" [14].

Using ICT, the public administration could virtualize its offices, thus becoming electronically available to all stakeholders [15].

Gov 2.0, including Web 2.0 technologies (social media, web and mobile technologies), initiatives of transparent policies and the citizens' need for openness and transparency creates IT-enabled services that are effective, efficient and transparent [2].

Gov 2.0 involves different ICT applications in the public sector [9]. As a part of Gov 2.0, social media assures transparency and creates new opportunities and challenges [2].

Unfortunately, corruption creates a bad environment for organizations [17], but the challenges in gov 2.0 are "less technological" because many governments have transformed their activities more transparent, and the systems are more open and can be investigated by the public, thus reducing corruption [2].

Bertot et al. state that the challenges and barriers to gov 2.0 projects implementation can be overcome through political will and technology, ICT creating a "culture of transparency and openness" [2].

However, there are new challenges related to privacy, data security and management, accessibility, social inclusion, and issues with information policies when citizens and public authorities interact through social media [3].

There are four types of citizens that use e-government [13]:
- the "activists" (they respond to political calls);
- the "socialisers" (animators of online communities and social networks, but with little interest and involvement in politics);
- the "connected" (just from home, they who do not use e-services regularly, and will not be involved in politics);
- the "unplugged" (with low income and not connected, or not using the Internet).

Boughzala et al. present the following e-government 2.0 challenges and research issues [5]:
- Infrastructure and process interoperability;
- End-user adoption and trust;
- Anonymous access provision;
- Format interoperability;
- Business models;
- Quality issues;
- Juridical implementation issues;
- Linking citizen identification with data authentication issues;
- Organizational transformation;
- Elicitation of best practices;
- Citizen centered design;
- Elicitation of best practices in website design.

There is a "delicate balance between national security, free speech, and transparency" [9] when using Web 2.0 technologies. Also, it is hard to balance the rights of public employees with the needs of the agency or government to maintain control of policy and decision dissemination [9]; [13].

Official messages and information are easier to disseminate by the public authorities through blogs, tweets, and other social media, but there are many risks of leakage of information that is not meant for the public.

Gov 2.0 best practices and research studies must span across all levels of government because Gov 2.0 must integrate knowledge for government services, and it must lead citizens into a more active involvement in government [9].

Ferro et al. [13] highlight some e-government challenges:
- collaboration between government agencies;
- social computing;
- opening up of government practices and data with clear boundaries;
- participation;
- exploration of new forms of management;
- education, civil engagement, and IT literacy.

There are some institutional changes (organizational challenges) when talking about moving from e-government to gov 2.0 [13]:
- Evolving from automation to innovation of public sector processes;
- Targeting a better-perceived quality of current services;
- Using a variety of means (including mobile technologies) for communicating with online users of e-services, and dealing with the differences of software applications approaching the back office layer from the citizen layer separately [14];
- Managing the dissemination of internal and external information in compliance with laws, regulations, and internal policies [14].

The political challenges include [13]:
- Using blog discussions as a source of ideas, contributions and proposals;
- Collecting, interpreting and following-up the political will expressed by the citizens through web 2.0 technologies;
- Using heterogeneous sets of methods, tools, and devices for integrating the socially excluded categories of citizens into the political process.

There are several risks related to e-government projects that challenge government officials to address to budget optimization, and focus on priority areas. E-government projects risks are divided into several categories: budget, users, public management, complexity, technological, supplier, and political [14].

When public managers involve in how e-government is implemented, public value will be added. From the technical point of view, a failed project will affect the public authorities, but a successful one will bring benefits for the IT company that runs the project [14]. The full potential of gov 2.0 is realized when the organizational change supplements the technological change [19].

According to Lönn and Uppström [19], challenges related to government 2.0 include:
- management of data gathered through Web 2.0 technologies;
- strong regulations on information flows;
- the balance between openness and protection of citizen rights openness and transparency increase;
- fear of losing control and fear of creating a heavier workload for government officials;
- trust in external resources of information.

The progress of e-government can be blocked by leadership failures, financial inhibitors, digital divides and choices, poor coordination, lack of workplace and organizational flexibility, lack of trust, or poor technical design [25].

Though, transparency and accountability are important, citizens expect more efficiency and cost reduction from the government [22].

Table 1 presents the e-government challenges proposed by Gil-Garcia and Pardo [16].

Table 1. E-government challenges by category

Category	Challenges
Information and data challenges	Information and data quality
Information technology challenges	Security issues Technological incompatibility Technology complexity Technical skills and/or expertise Technology newness
Organizational and managerial challenges	Project size and related complexity Users or organizational diversity Lack of alignment between organizational goals and IT project Multiple or conflicting goals Resistance to change Turf and conflicts
Legal and regulatory challenges	Restrictive laws and regulations One-year budget restrictions Potential intergovernmental relationships
Institutional and environmental challenges	Privacy concerns Institutional arrangements (e.g. autonomy of agencies) Competition or political pressures (e.g. timing) Identification of partners and their contributions Lessons from previous IT experiences

Source: Gil-Garcia and Pardo (2005) [16]

Good practices for strong implementation of e-government must consider the following perspectives [20]:
- public services and the connection between them;
- e-government platforms and interfaces;
- structures involved in the process and the collaboration between them;
- work procedures for the developing solutions and managing them;
- the electronic centralized system of authentication and identification of the users.

A significant increase of the efficiency and transparency of the public administration must be a priority that will contribute to dealing with the major obstacles regarding the economic growth and employment [20].

Meijer et al. summarize the key challenges to the realization of e-government 2.0: transformational leadership, getting citizens interested and developing mutual trust [21].

Individual high-level projects, that are already verified, or that are considered examples of best practice are easier to implement, with more impact and more successful [23].

Another challenge for gov 2.0 projects is for governments to become citizen-centric. The democratic dialog must be offered through cost-effective, personalized, and relevant e-services [4].

Politicians and policymakers must enable policies using organizational change, strategies, users and citizens [4]. This problem addresses the consumers of e-government services indirectly [7].

The investment in infrastructure when implementing gov 2.0 projects is crucial for proper service delivery [4] and must address directly the consumers [7]. Transparency and trust are crucial when investing in creating the best conditions for the usage of e-services [4].

3. Challenges of e-government in Romania

The challenges for transitioning from e-government to e-government 2.0 are, as Sun et al. stated [24]:
- E-literacy and digital divide (awareness, skills, understandings, and reflective approaches);
- Sustainability and cost structures (sustainable programs by the government to minimize costs);
- Privacy, security, and trust (government responsibility for citizens' personal information);
- Permanent availability and preservation (compact and convenient storage);
- Education, marketing and workforce issues (programs, trainings, and investments in human resources);
- Benchmarking, law, and public policy (regular evaluations for effectiveness and impact);
- Transparency and accessibility (active stakeholder participation in government by raising questions);
- Content management – CM (a necessary framework for making sense of the available data);
- Interoperability (compatible records of data);
- Infrastructure development (taking advantage of new technology and communication tools).

National culture influences the social change in openness and anti-corruption, making it the biggest challenge [2]. In e-government 2.0, the government operations are transformed and enhanced using Web 2.0 tools [9].

In Greece, the main challenges for the open government initiatives within e-government were: "improving public services, increasing public integrity, and more effectively managing public resources" [18].

In Jordan, the greatest challenges for implementing e-government are: reducing the increased complexity of the state apparatus, and the need for democratic reforms with real popular participation [6].

One of the biggest challenges in European countries regarding the technological side of e-government was "the transition from partially online services to fully transactional services". In 2014, "only 5 of 33 countries have achieved a saturated level of online basic services (compared to 11 of extended services)" [10].

In Romania, one of the most important challenges to implement successfully the strategic lines of development within in the National Strategy for the Digital Agenda in Romania 2014-2020 is for the authorities to develop and implement the right policies [20].

In Table 2, we identified the main challenges for e-government 2.0 projects within each line of action from the strategic lines of development from the National Strategy for the Digital Agenda in Romania 2014-2020.

Table 2. Strategic lines of development, corresponding lines of action for E-Government 2.0, and main challenges

Lines of Development	Lines of Actions	Main challenges
Provide better public services through the use of e-government 2.0	Define the Informational Perimeter of Public Services	- Sustainability and cost structures; - Privacy, security, and trust; - Education, marketing and workforce issues; - Benchmarking, law and public policy; - Transparency and accessibility; - Content management; - Interoperability; - Infrastructure development.
	Implement an institutional structure meant to support the implementation of eGovernment projects	- Sustainability and cost structures; - Privacy, security, and trust; - Education, marketing and workforce issues; - Interoperability; - Organizational transformation; - Infrastructure development.
	Promote better standards, transparency and openness	- E-literacy and digital divide; - Privacy, security, and trust; - Education, marketing and workforce issues; - Benchmarking, law and public policy; - Transparency and accessibility.
	Identification of data registries and relevant owners of data registries for interoperability	- Privacy, security, and trust; - Permanent availability and preservation; - Benchmarking, law and public policy; - Transparency and accessibility; - Content management; - Interoperability; - Infrastructure development.
	e-Participation	- Privacy, security, and trust; - Education, marketing and workforce issues; - Benchmarking, law and public policy; - Transparency and accessibility; - Interoperability.
	Interoperability	- E-literacy and digital divide; - Benchmarking, law and public policy; - Interoperability.
	Improve legislation	- Privacy, security, and trust; - Benchmarking, law and public policy; - Transparency and accessibility.
Increase the adoption of e-government services	Consolidate institutional support and oversight	- Education, marketing and workforce issues; - Benchmarking, law and public policy; - Infrastructure development.
	Promote cooperation and collaboration with public and private entities	- E-literacy and digital divide; - Privacy, security, and trust; - Benchmarking, law and public policy; - Transparency and accessibility.

	Implement feedback and evaluation mechanism	- Privacy, security, and trust; - Permanent availability and preservation; - Benchmarking, law and public policy; - Transparency and accessibility.
	Standardization	- E-literacy and digital divide; - Privacy, security, and trust; - Education, marketing and workforce issues; - Benchmarking, law and public policy; - Transparency and accessibility.
	e-Identity	- E-literacy and digital divide; - Privacy, security, and trust; - Benchmarking, law and public policy; - Transparency and accessibility; - Interoperability; - Infrastructure development.
	Implementing 'One-Stop-Shop' portals for LifeEvents and extending current portal functionalities	- E-literacy and digital divide; - Privacy, security, and trust; - Transparency and accessibility; - Content management; - Interoperability; - Infrastructure development.
Optimize the use of technology within the government operations	Focus on e-procurement	- Sustainability and cost structures; - Privacy, security, and trust; - Benchmarking, law and public policy; - Transparency and accessibility; - Infrastructure development.
	Implement a decommissioning model	- Sustainability and cost structures; - Benchmarking, law and public policy.
	Improve Governance on implementation of computerized public services	- Privacy, security, and trust; - Permanent availability and preservation; - Benchmarking, law and public policy; - Transparency and accessibility; - Infrastructure development.
	Promote innovation	- E-literacy and digital divide; - Privacy, security, and trust; - Education, marketing and workforce issues; - Benchmarking, law and public policy; - Infrastructure development.

Source: self-processing from MCSI (2015) [20]

4. Conclusions

E-government assists public authorities in making policies to face the challenges of new technologies.

E-government 2.0 means innovation, transformation, communication, transparency, collaboration and participation, less bureaucracy, and less corruption.

E-government 2.0 projects in Romania must meet the requirements of the strategic lines of development in the National Strategy on Digital Agenda for Romania:

- Romania needs to provide better public services through the use of e-government 2.0.
- Public entities need to increase the adoption of e-government Services.
- Public entities need to optimize the use of technology for effective government operations

Providing reliable e-services resulting from successful e-government projects means tackling different challenges like transparency and accessibility, technological infrastructure interoperability, end-user adoption, citizen privacy, security and trust, policy updating, and organizational transformation.

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