

## **Enhancing the capacity for innovation of public administration. An exploratory study on e-Governance, ICT, knowledge management in Romania**

**Ani MATEI**

amatei@snsa.ro

National University of Political Studies and Public Administration, Bucharest, Romania

**Carmen SĂVULESCU**

National University of Political Studies and Public Administration, Bucharest, Romania

csavulescu@snsa.ro

**Abstract.** *Beyond the role of public sector as driver of innovation in the economy, for the time being, we witness the necessity of boosting innovation in the public sector itself, in view to improve productivity, efficiency, as well as to enhance the creation of public value.*

*The new concept concerning the capacity for innovation of public administration reflects the synergy between the traditional instruments of administrative innovation (planning, strategy etc.) and the modern ones (ICT, e-governance, knowledge management in public administration).*

*The current paper is accomplishing an empirical analysis through operationalization of a conceptual model on the capacity for innovation of public administration. Thus, the paper analyses e-Governance, ICT and knowledge management in the Romanian Prefect institutions by identification, analysis and evaluation of the factors contributing to the improvement of public service quality, effectiveness, efficiency, transparency and citizen participation, strengthening trust and legality.*

**Keywords:** e-Governance, ICT, knowledge management, innovation, public administration modernisation.

**JEL Classification:** O30, O35.

**REL Classification:** 13G.

## 1. Modernisation of public administration

The modernisation of public administration involves public service provision more efficiently, faster and at lower costs, as well as rethinking the processes and procedures associated to governance based on the use of ICT and knowledge management. It also refers to applying the Europe's Digital Agenda, national strategy and actions plans aimed at administration modernization in the knowledge society. The use of ICT applications triggers the change in public administration by valorising the opportunities and instruments determining important benefits for society and improving the public value.

Public administration has to face the fast and accelerating economic-social changes, to turn into account the opportunities provided by new technologies and to develop new services, focusing on openness, transparency and citizen participation. The administrative reforms should be achieved "during times when fiscal constraints and budget consolidation pressures become increasingly tighter" (OECD, 2011).

In view to enhance Europe's competitiveness, public administration modernisation in the EU Member States should focus on:

- "reforms of the institutional framework conditions under which private enterprises operate;
- implementation of internal measures in light to improve the quality of service provision by increasing the capacities and incentives of public administration in order to provide goods and services in an integrated, reliable, flexible, efficient and effective manner" (EC, 2012).

The field literature emphasises high quality institutions and governance structures, physical capital, human capital and knowledge as key drivers of economic growth (Knack, Keefer, 1995; Mauro, 1995; Olson et al., 2000; Acemoglu et al., 2001; St. Aubyn, 2008).

Thus, public administration modernisation should focus on improvement of efficiency, effectiveness and speed of service provision, and accomplishment of high standards of predictability, reliability and accountability.

The European Commission specifies the modernisation of the public sector as one of the five key priorities in the 2013 Annual Growth Survey.

The European Semester report highlighted that "modern public administration is an essential factor to underpin the design and delivery of policies promoting jobs, growth and competitiveness" (COM (2013) 350).

In this context, the European Union Member States should focus on "reforms aiming at facilitating internal and external administrative processes, such as

strengthening the capacity for strategic and budgetary planning; and encouraging innovation, by introducing new organisational and communication models, and by supporting public procurement of innovative solutions” (COM (2013) 350).

In the public administration “the innovative activities include new services or new methods of providing services in interaction with users, as well as re-organisation of work responsibilities, new support and logistics systems and new management systems” (DG Enterprise and Industry, 2011).

“The internal public sector excellence potentially benefits from ICT through several channels: public sector employees are relieved of routine tasks, several procedural steps can be outsourced, the quality of transmitted information increases while transaction costs decrease, and some tasks can be centralised, for example at shared service centres” (OECD, 2011). The electronic information exchange of administrative units may speed up decision-making, reduce internal processing times and thus improve regulatory management and policy enforcement.

By 2015, the European public administrations must be “recognised for being open, flexible and collaborative in their relations with citizens and businesses. They use e-Government in view to increase their efficiency and effectiveness and to constantly improve public services in a way that caters for user's different needs and maximises public value, thus supporting the transition of Europe to a leading knowledge-based economy” (EC, 2012).

The Digital Agenda and the e-Commission strategy are aimed at making life easier for users, the effective and efficient use of resources, ensuring the security and privacy of citizens and businesses, based on the principles of subsidiarity and proportionality, user-centricity, inclusion and accessibility, security and privacy, multilingualism, administrative simplification, transparency, preservation of information, openness, reusability, technological neutrality and adaptability, effectiveness and efficiency (COM 2010 744 final).

## **2. Capacity of innovation of public administration**

The public administration has an important role in boosting innovation in the economy and at the same time, it should trigger innovation itself in the public organisations in order to increase productivity, to improve efficiency, to enhance the creation of public value and thus to meet the society challenges.

In the knowledge society, the capacity of innovation and capacity to implement new innovations is very important for the public administration. „The public organizations should be able to incorporate information, knowledge, resources within the innovation processes and to harmonise the needs of citizens, businesses, NGOs” (Bekkers et al., 2011).

Innovation represents a prerequisite for administration's modernization. Innovation in public administration may be considered a learning process, a modality for new service development, new technology application, for changing the organisational structures as well as for implementing new managerial approaches in light to meet the citizens, businesses, society needs and requirements in facing the new challenges of knowledge society.

Public sector innovation research shows that new insights stem from taking into account the ideas, insights and experiences of citizens as end-users (Davenport, 1993; Oudshoorn, Pinch, 2003), of the middle management of public organizations (Borins, 2008; Fuglsang, Pedersen, 2011) and people who are engaged on a daily basis in rendering services to society (Von Hippel, 2007). In light to take account of insights from various groups, the field literature reveals the importance of seeing innovation as a process of co-creation (Oudshoorn, Pinch, 2003).

Most innovations in public administration have an ICT component. ICT is interconnected in many practices in administration as information, communication represent vital resources for public service provision, for implementing public policies and achieving projects and programmes. ICT innovative potential is determined by specific characteristics, for example „the ability to process big data and to communicate beyond the temporal, functional and geographic borders” (Bekkers, Homburg, 2005).

It is important to understand how public organizations are developing new ideas and new knowledge as part of innovation processes and how the organizations learn or fail to learn (Vera, Crossan, 2006). On the other hand, the adoption of external ideas and innovations depends on the characteristics of organizations (Lewin et al., 2011).

According to Osborne and Brown (2005), the capacity of innovation in public organisations represents “a function of organisational characteristics, but also of internal culture, external environment and institutional framework”.

As mentioned by Bason (2010), the capacity of innovation can be considered in a pyramid structure, “with overall structural, institutional and political contextual conditions at the top and daily practices – people and culture – at the bottom”.

Thus, the capacity of innovation should take into consideration the contextual level, the institutional environment, the strategic and organisational level as well as the human, financial and technical resources and organisational culture.

A long term clear vision and an adequate strategy can boost innovations in the public organisations, acknowledging the value of innovation which enables the employees to adapt to changing contexts. A working environment which

encompasses the culture of change boosts the generation of new ideas and the feedback loops.

The public organisations holding a high capacity of innovation create an organizational culture which enhances the generation and implementation of new ideas in view to generate public value for society, achieving new or improved processes and services. They focus also on implementation of modern technologies, valorising the activity of research and development.

Considering innovation as ongoing sustained process, the public organisations which are open to new ideas and processes involve in networks, share knowledge and cooperate with various partners. In view to collaborate with various networks of partners, beneficiaries, customers, the organizations can turn into account various instruments such as crowdsourcing, field officers, open-source databases, online community platforms.

Innovation in the public sector can be smarter procurement, citizen centric services, digital platforms, new health care systems, intelligent transport systems, embracing various other forms.

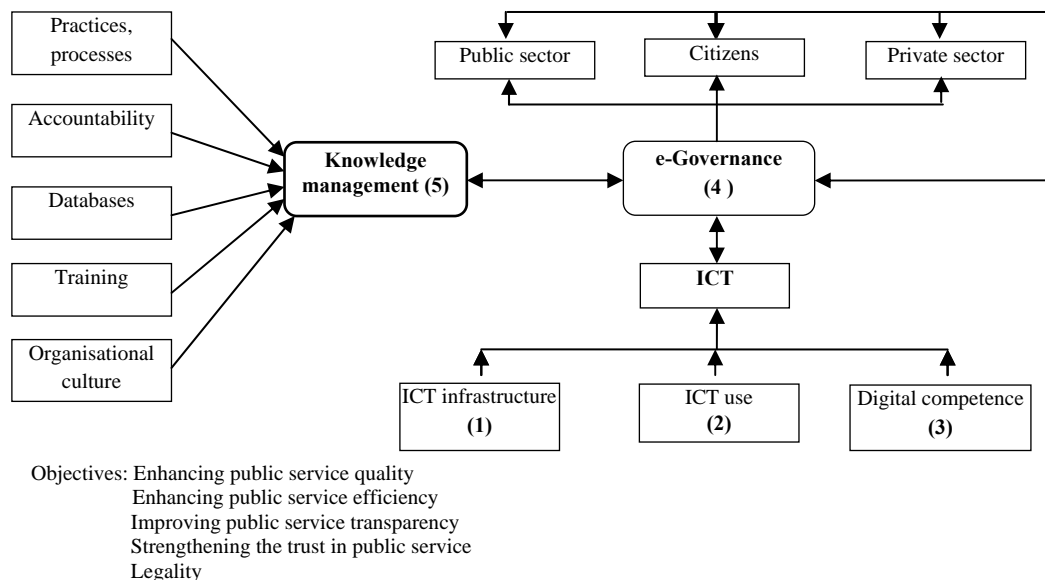
### **3. Conceptual model concerning the capacity for innovation of public administration related to e-Governance, ICT and knowledge management**

The study aims at operationalizing a conceptual research model in view to analyse the key aspects of e-Governance, ICT, knowledge management in Prefect institutions in Romania by identifying, analysing and evaluating the factors contributing to the enhancement of e-service quality, efficiency, improvement of transparency and citizen participation, strengthening the users' trust and legality.

Concerning ICT, three components were evaluated: ICT infrastructure, ICT use and digital competences. ICT infrastructure comprises hardware, software, communication environment, and access to Internet. The ICT development strategic plan and the budget allocated to ICT are also relevant. ICT use refers to intensity of ICT use by employees, how it improves the outcomes of the institution, the internal and external communication, as well as the improvement of sharing information and knowledge. The evaluation of the digital competences refers to employees' experience in software, hardware, Internet use. The percentage of the employees holding ECDL is also important. For e-Governance, the following components are relevant: evaluating the key aspects of online service delivery by the public institution, evaluating the advantages of e-services, evaluating the concept of transparency and citizen participation, as reflected by the website of the respective public institution, the degree of improving the relationship with the citizens, businesses further e-service development.

Concerning knowledge management the focus is on the degree of using the most usual practices and processes on knowledge management, the advantages of the institution further their application, aspects holding potential in successful development of knowledge management systems, database with the employees' competences, database with useful presentations, documents, which is updated systematically, how the organisational culture encourages the knowledge sharing, organisation of interdisciplinary project teams, rewarding the employees for information and knowledge sharing, accountability for knowledge management, opportunities for (general, specific, IT) training programmes, number of training days, percentage of the total budget allocated to employees' training.

**Figure 1.** Systemics of the relationship between e-Governance, information and communication technology and knowledge management



**Source:** the authors.

#### 4. Survey concerning the evaluation of the perception of Prefect institutions towards e-Governance, ICT and knowledge management

The pilot survey developed by the authors has aimed the identification, analysis and evaluation of the perception towards e-Governance, ICT and knowledge management of Prefect institutions, as main actors in digital administration development.

The research objectives focused on:

- Identifying relevant aspects for e-Governance development and knowledge management;

- Initiating a database containing information on e-service delivery and knowledge management in local public administration;
- Ensuring data comparability in time and possibility to create chronological series of averages and sampling dispersions;
- Identifying significant sampling variables and the structure of optimum statistic community, which is reproducing with accuracy the structure of the general population;
- Understanding the interactions between citizens and administration;
- Identifying the interest and attitude of Prefect institutions versus e-Governance, ICT, knowledge management;
- Identifying the actors who are holding the essential role for knowledge management in Prefect institutions;
- Enhancing the awareness of Prefect institutions on the importance of investments in the development of electronic, human resources, and for speeding up e-service development.
- Determining the factors which lead to speeding up e-Governance development.

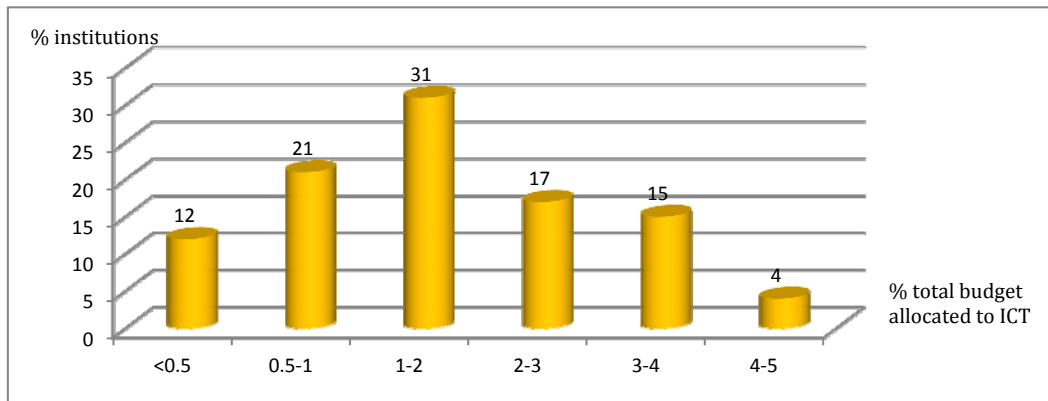
The pilot statistic community comprised all 42 Prefect institutions in Romania, sampled by authors in view to design a survey with several variables, aimed to ensure the best representativeness and minimisation of survey errors. The questionnaire was addressed to 42 Prefect institutions in terms of objectivity and privacy, under the authors' direct coordination. 37 questionnaires were received, of which 35 were valid.

#### **A. ICT Infrastructure**

1. Concerning the question ***“Does the institution own an integrated IT system for activity management?”***, the breakdown of responses is as follows: 67% Prefect institutions assert that they own an IT system for activity management, 22% provide a negative answer and 11% do not know/do not respond.
2. In terms of the question ***“Does the institution own specific IT applications?”***, the breakdown of responses is as follows: 82% Prefect institutions own IT system for Financial, and Human Resource Management, 13% own IT system for the Electronic Archive, 62% own e-mail system, 35% hold Document and Workflow Management System, 78% own Intranet, 47% have EDI, and 87 Prefect institutions own antivirus programmes.
3. In terms of the question ***“Does the institution own an ICT Development Strategic Plan?”***, the breakdown of responses is as follows: 72% Prefect institutions own an ICT Development Strategic Plan.
4. Concerning the question ***“Percentage of the total budget allocated to ICT”***, Figure 2 reveals the breakdown of responses. Thus, 10% of the studied Prefect institutions allocate below 0.5%, 13% allocate between 0.5-1%, 21% allocate

between 1-2%, 18% allocate between 2-3%, 23% allocate between 3-4%, and 15% allocate between 4-5%.

**Figure 2.** Evaluation of the percentage of the total budget allocated to ICT

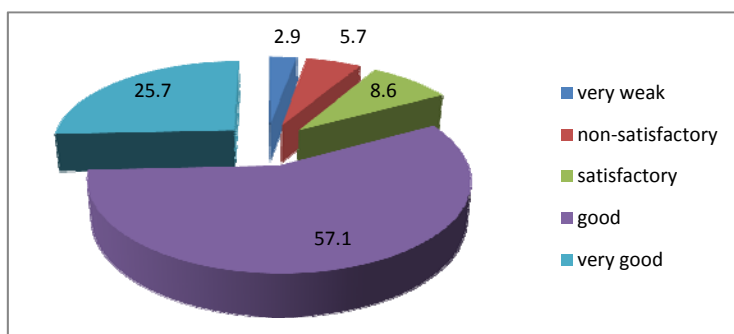


5. Concerning the question “*Has the ICT budget increased during the last 5 years? If yes, how much?*”, the breakdown of responses is as follows: in 61.9% Prefect institutions, ICT budget has increased in the last 5 years from 3% to 8%.

## B. ICT use

6. In terms of the question “*How do you evaluate the intensity of ICT use by employees?*”, Figure 3 expresses the breakdown of responses: 2.9% Prefect institutions evaluate ICT use by employees as being very weak, 5.7% evaluate as being non-satisfactory, 8.6% consider to be satisfactory, 57.1% consider to be good, and 25.7% appreciate to be very good.

**Figure 3.** Evaluation of the intensity of ICT use by employees

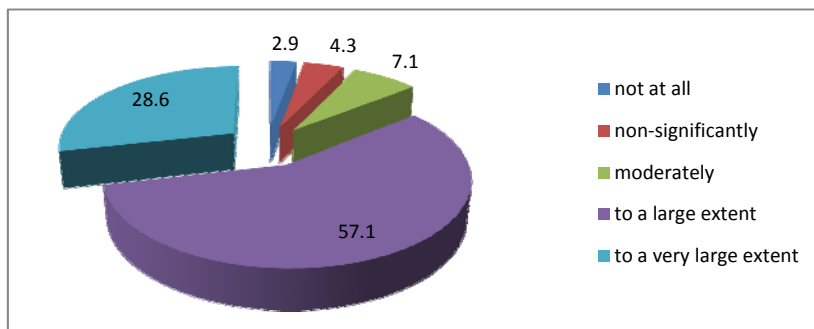


7. Concerning the question “*Do you consider that ICT use improves the outcomes of the activity in the institution?*”, the breakdown of responses is as follows: 2.9% Prefect institutions consider that ICT use by employees does not



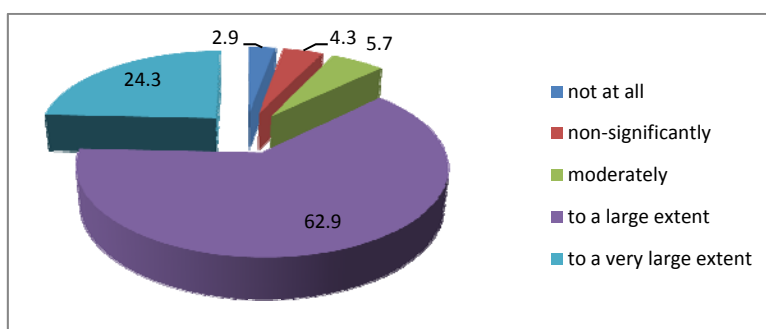
at all improve the outcomes of the activity in the institution, 4.3% appreciate that it improves non-significantly, 7.1% consider that it improves moderately, 57.1% appreciate that it improves to a large extent and 28.6% consider that it improves to a very large extent.

**Figure 4.** Analysis of how ICT use improves the outcomes of the activity in the institution



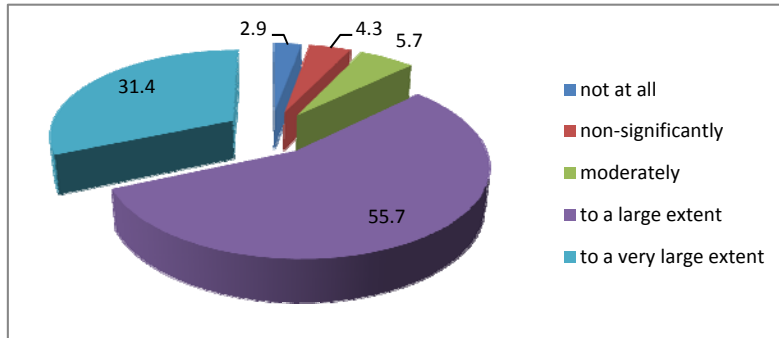
8. In terms of the question ***“Do you consider that ICT use improves the internal communication in the institution?”***, Figure 5 reflects the breakdown of respondents’ considerations. Thus, 2.9% Prefect institutions appreciate that ICT use by employees does not at all improve the internal communication, 4.3% consider that it improves non-significantly, 5.7% appreciate that it improves moderately, 62.9% appreciate that it improves to a large extent and 24.3% believe that it improves to a very large extent.

**Figure 5.** Analysis of how ICT use improves the internal communication in the institution



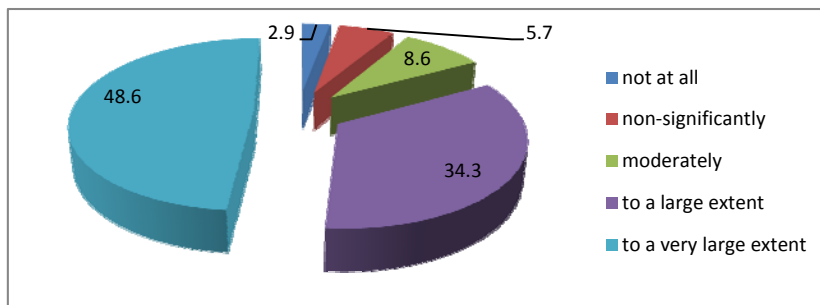
9. In terms of the question ***“Do you consider that ICT use improves the external communication of the institution?”***, Figure 6 reveals the following structure of responses: 2.9% Prefect institutions appreciate that ICT use by employees does not at all improve the external communication, 4.3% believe that it improves non-significantly, 5.7% appreciate that it improves moderately, 55.7% appreciate that it improves to a large extent and 31.4% believe that it improves to a very large extent.

**Figure 6.** Analysis of how ICT use improves the external communication of institution



10. Concerning the question **“Do you consider that ICT use improves sharing of information, knowledge?”**, from Figure 7, the following assertions have resulted: 2.9% Perfect institutions consider that ICT use does not at all improve the sharing of information, knowledge, 5.7% appreciate that it improves non-significantly, 8.6% assert moderately, 34.3% appreciate “to a large extent” and 48.6% believe “to a very large extent”.

**Figure 7.** Analysis of how ICT use improves the sharing of information, knowledge



### C. Digital competences

11. In terms of the question **“How do you evaluate the employees’ experience in the field of software?”**, the respondents have assigned scores according to the scale: “-2”: inexistent, “-1”: weak, “0”: good, “+1”: very good, and “+2”: exceptional, to the sentences from Table 1, which contain positive and negative statements concerning the evaluation of employees’ experience in the field of software. An average score was calculated for each statement. Not all averages proved to be representative, as resulted from the calculation of the coefficients of variation of the individual scores assigned to each statement.

**Table 1.** *Analysis of the employees' experience in the field of software*

Software	Average score	Coefficient of variation
Word Processing	+1.59	0.22
Spreadsheets	+0.86	0.29
Presentation (PowerPoint)	+0.83	0.76
Using databases (Access)	-0.97	0.32
Others (please specify)	-1.28	0.63

The respondents have also identified the employees' skills to use other IT applications, such as those in the field of finance and accounting.

Analysing the average scores awarded to each statement, it is worth to note that the Prefect institutions have a clear perception concerning the following issues:

- Necessity of lifelong learning in the field of ICT, even if for the time being the employees have high competences, skills and knowledge;
- Improving the employees' efficiency and labour productivity, as immediate effects of ICT use.

12. In terms of the question "*The percentage of employees holding ECDL (European Computer Driving Licence)?*", Table 2 reflects the distribution.

**Table 2.** *Analysis of the percentage of employees holding ECDL*

Number of Prefect institutions	Number of respondents	Percentage of participation in the survey (%)	Percentage of employees holding ECDL (%)	Dispersion (%)
42	35	83.33	75.60	11.41

13. Concerning the question "*How do you evaluate the employees' experience in the field of hardware?*", scores have been assigned as follows: "-2": inexistent, "-1": weak, "0": good, "+1": very good and "+2": exceptional, to the sentences from Table 3, which contain positive and negative statements concerning the evaluation of employees' experience in the field of hardware.

**Table 3.** *Analysis of the employees' experience in the field of hardware*

Hardware	Average score	Coefficient of variation
Using IT devices (printers, scanners, web cam)	+1.42	0.29
Configuring computers/networks	+0.23	0.36

Analysing the average scores, we remark the Prefect institutions' perception on the necessity to improve the employees' competences in this field.

14. In terms of the question "*How do you evaluate the employees' experience in the field of Internet use?*", scores have been assigned as follows: "-2": inexistent, "-1": weak, "0": good, "+1": very good and "+2": exceptional, to the sentences from Table 4, which contain positive and negative statements concerning the evaluation of employees' experience in the field of Internet use.

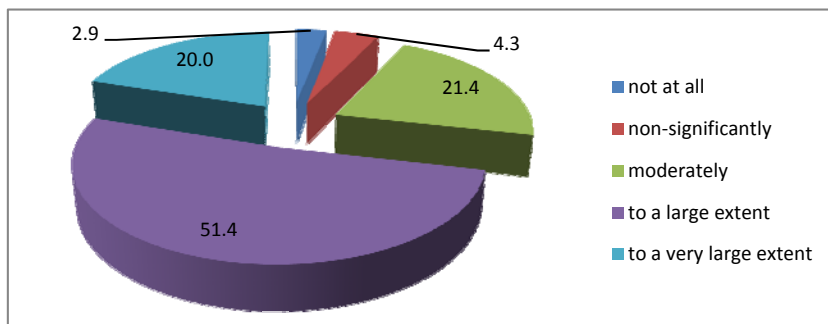
**Table 4.** Analysis of the employees' experience in the field of Internet use

Internet	Average score	Coefficient of variation
Web browsing	-1.19	0.29
Databases	- 1.48	0.18
Social networking (Facebook, LinkedIn, Twitter)	-1.76	0.27
Cloud computing	-0.54	0.72
Digital communication	+0.83	0.37

The employees have better experience in browsing, digital communication, social networking. The experience in databases and cloud computing is quite low, thus resulting the necessity of developing the employees' competences in this field.

#### D. Relevant aspects on e-services

15. In terms of the question *“Evaluate to what extent the relationship with the citizens, businesses has improved further the online service development in the institution”*, the breakdown of responses is reflected by Figure 8. In 2.9% Prefect institutions, the relationship has not at all improved, in 4.3% it has improved non-significantly, in 21.4% it has improved moderately, in 51.4% it has improved to a large extent and in 20% it has improved to a very large extent.

**Figure 8.** Evaluation of the improvement of the relationship of Prefect institutions with the citizens, businesses further the e-service development

16. For the question *“Evaluate the advantages of e-services provided by the institution, awarding a score from 1 to 5”*, the respondents assigned scores as follows: “1”: very weak, “2”: non-satisfactory, “3”: satisfactory, “4”: good and “5”: very good, to the sentences from Table 5, which contain positive and negative statements concerning the e-service advantages.

Analysing the average scores, we emphasise the following advantages in the order evaluated by respondents: enhancing the degree of transparency of online services; cutting down the public expenditure; enhancing the efficiency of the administrative activities; improving accessibility to public interest information and public services; decreasing the costs of public services; fighting against

corruption. The Prefect institutions have also identified another advantage, namely saving of time.

**Table 5.** Evaluation of e-service advantages

e-service advantages	Average score	Coefficient of variation
1. Cutting down the public expenditure	4.12	0.19
2. Improving accessibility to public interest information and public services	2.76	0.21
3. Enhancing the degree of transparency of online services	3.78	0.27
4. Fighting against corruption	0.97	0.17
5. Decreasing the costs of public services	1.34	0.28
6. Enhancing the efficiency of the administrative activities	2.98	0.27
7. Others	1.73	0.18

17. and 18. Concerning the website of the Prefect institution, the respondents awarded scores on a scale from 1 to 5 for evaluation of the concept of transparency and concept of citizen participation in Prefect institutions, as reflected by their websites. Table 6 reflects the breakdown of responses.

**Table 6.** Evaluation of the concept of transparency and concept of citizen participation in institutions

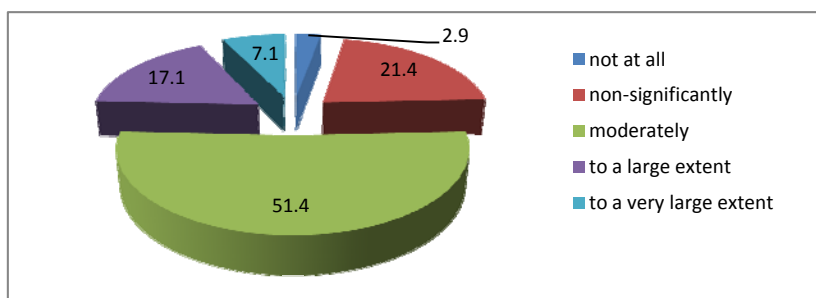
Website	Average score	Coefficient of variation
1. Reflecting the concept of transparency	4.14	0.17
2. Reflecting the concept of citizen participation	3.78	0.27

Analysing the average scores, it is worth to note that up-dated website, with coherent, useful content, attractive design leads to increasing the transparency degree as well as the citizen participation degree at the Prefect institution level.

**E. Practices concerning knowledge management and learning organisations**

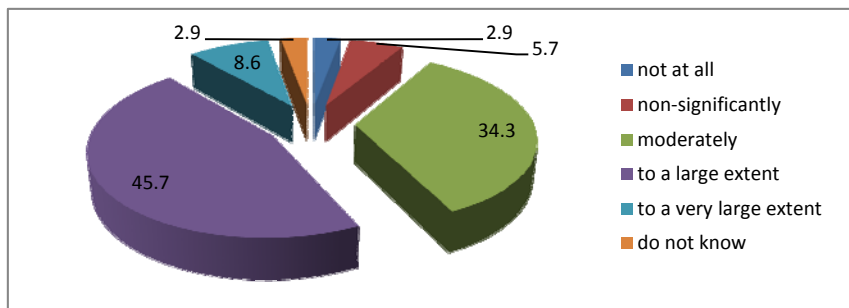
19. In terms of the question “Does the institution use practices and processes on knowledge management?”, Figure 9 reflects the graphic representation of the respondents’ statements. Thus, 2.9% Prefect institutions sustain that they do not use at all practices and processes on knowledge management, 21.4% use them non-significantly, 51.4% use them moderately, 17.1% use them to a large extent and 7.1% use them to a very large extent.

**Figure 9.** Analysis of the use of practices and processes on knowledge management



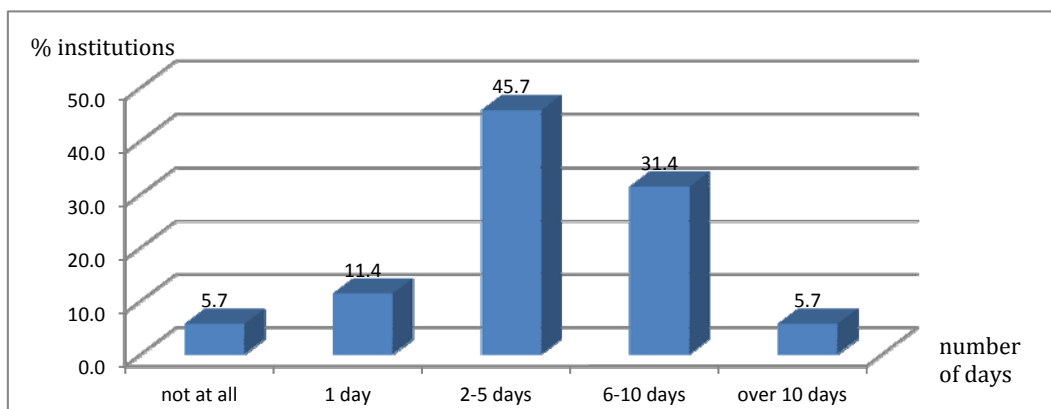
20. Concerning the question, *“Which are the advantages of Prefect institutions further the application of practices on knowledge management?”*, the respondents had the possibility to provide multiple responses. Thus, further the Prefect institutions evaluation, the following results are relevant: improving the capacity to respond in due time to citizens’ needs (77.1%), enhancing the efficiency (65.7%), improving the service quality (68.6%), improving the decision-making (62.9%).
21. The question *“Which aspects have potential in successful development of knowledge management systems?”* has aimed to identify the main advantages with potential in successful development of knowledge management systems. According to the respondents’ opinion, the advantages may be expressed in the development of databases (94.3%), development of efficient methods for obtaining information and knowledge (88.6%), development of the organisational culture (40%), awarding financial incentives, career promotion, awarding prizes (22.9%), encouraging the civil servants and public employees to be creative, innovative (77.1%). Another advantage identified by respondents refers to promotion of the institution image (19.2%).
22. Concerning the question, *“Does the institution own a database with employees’ competences?”*, the breakdown of responses reflects that only 77.1% Prefect institutions own such a database.
23. In terms of the question, *“Does the institution own a database with useful presentations, documents, which is updated continuously?”*, 91.4% Prefect institutions own such a database.
24. The responses at the question, *“In your opinion, the organisational culture encourages knowledge sharing?”* are reflected by Figure 10. Thus, 2.9% Prefect institutions consider that a powerful and positive organisational culture does not at all encourage the knowledge sharing, 5.7% believe that it encourages non-significantly, 34.3% consider moderately, 45.7% appreciate to a large extent, 8.6% consider to a very large extent and 2.9% do not know/do not respond.

**Figure 10.** Analysis on how the organizational culture encourages knowledge sharing

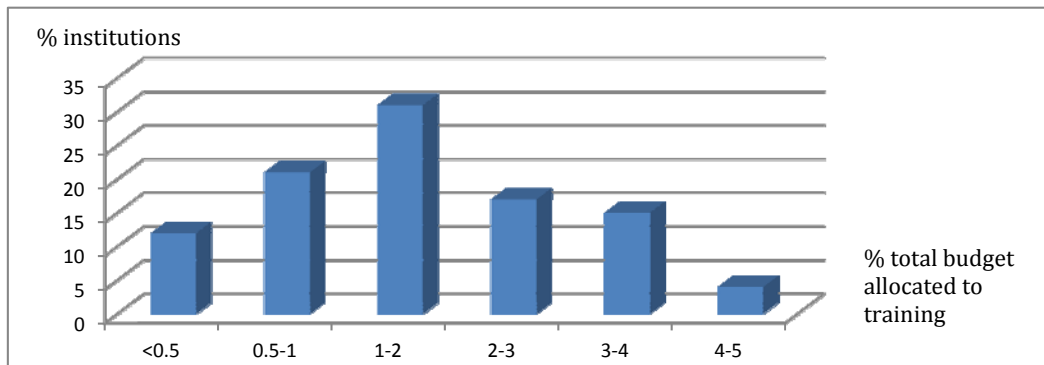


25. Concerning the question, “*Do you organise interdisciplinary project teams?*”, 77.1% Prefect institutions sustain the organisation of interdisciplinary project teams.
26. For the question, “*Are the employees rewarded for information and knowledge sharing?*”, the results show that the employees are rewarded for information and knowledge sharing by financial incentives (5.7%), career promotion (31.4%) and no prizes are rewarded.
27. The question on “*Accountability for knowledge management in the institution*” has aimed at identification of Prefect institutions’ opinion on the actor holding the greatest accountability for knowledge management. Thus, most affirmative answers were for Human Resource Management Department - 81%, IT Department - 8%, Prefect - 8%.
28. Concerning the question “*Does the institution provide opportunities for (general, specific, IT) training programmes?*” 94.3% Prefect institutions provide such opportunities.
29. In terms of the question “*How many days of training/year does the institution provide?*”, 5.7% Prefect institutions assert that they do not provide training days, 11.4% assert that they provide one day/year, 45.7% award 2-5 days/year, 31.4% award 6-10 days/year while 5.7% provide over 10 days/year.

**Figure 11.** *Training period*



30. Concerning the question, “*Percentage of the total budget allocated to training?*”, Figure 12 reflects the breakdown of responses. Thus, 12% Prefect institutions allocate below 0.5% of the total budget for employees’ training, 21% allocate between 0.5-1%, 31% allocate between 1-2%, 17% allocate between 2-3%, 15% allocate between 3-4%, 4% allocate between 4-5%.

**Figure 12.** *Percentage of the total budget allocated to training*

31. In terms of the question, *“Has the budget allocated to training increased during the last 5 years? If yes, how much?”*, the breakdown of responses is as follows: in 22% Prefect institutions, it has increased in a range from 2% to 8%.

## 5. Conclusions of the survey

The pilot exploratory research provides significant outcomes concerning the Prefect institutions’ perception on the evaluation of local e-governance development based on ICT and knowledge management:

- Enhancing the efficiency and labour productivity as immediate effects of ICT use;
- Necessity of improving the transfer of information among the employees;
- Reducing the citizens’ waiting time for various problem-solving;
- Need of increasing the degree of communication between Prefect institutions and other institutions/organisations/companies;
- Necessity of employees’ lifelong learning, even if for the time being they hold adequate competences, skills and knowledge.

The analysis of the Prefect institutions’ responses validates what the public administration already knows, namely that e-Governance applications represent a reality and the citizens are prepared to use them. The administration should analyse the citizens’ feedback on e-service delivery, which triggers the improvement of e-service quality and customisation.

The public administration progress depends on technological, organisational and especially human changes. The speed of the technological changes, the pace of developing new technologies requires the enhancement of the knowledge management role.



Thus, lifelong learning, transfer of knowledge, implementation of new technologies are of crucial importance. On the other hand, the organisational culture represents an essential element for the employees' attitude and behaviour.

The operationalisation of the conceptual model from Figure 1 contributes to better understanding the principles and practices of modern e-Governance.

The lack of the plans of ICT development at the level of some Prefect institutions contributes to un-coordinated ICT application in the institution. Some public institutions revealed the lack of understanding the importance of allocating funds for investments in ICT infrastructure, e-service development, employees' training.

The study outcomes might represent a milestone for all stakeholders, especially in the actual context of a modern, citizen-centred administration.

### **General conclusions**

The current paper reiterates the general context of deepening the processes of modernization of national public administrations, the role of key factor for learning in the public administration. In fact, as shown by the paper, "innovation represents a prerequisite of public administration modernization", which is incorporating new organisational and communication models.

For most European states and especially Romania, it is important the distinction in the paper between the capacity to innovate and capacity to implement the new innovations.

In our opinion, it represents the major explanation of the sinuous evolutions of the public administration reforms, especially in the new EU Member States.

The capacity of innovation of public administration integrates in a systemic, complex manner internal learning processes in the public organisations, new modalities of service development, use of new technologies, change of the organisational structure etc. Simultaneously, the capacity of innovation has essential determinants in the external environment of public administration, being in systemic complex connection with the evolution of e-Government, implementation of new ICT and of course knowledge management in the contemporary knowledge society.

The current paper emphasises indirectly the perception of Romanian top civil servants concerning the capacity of innovation of public administration. The interface of this perception is ensured by the specificity of the e-Government, ICT or knowledge management in the Romanian society.

The conceptual model, operationalized by the pilot survey demonstrates that ICT infrastructure, digital competences, training, using modern practices of knowledge management represent key drivers for e-governance development as well as for boosting innovation.

This research aims to emphasise the importance of all the above mentioned factors for the successful e-governance development.

The feedback of the public institutions reflects the following conclusions:

- The public institutions are not enough centred on achieving the objectives set in the Digital Agenda.
- The lack of openness towards establishing new channels of communication with the citizens.
- The need to change the civil servants' and public employees' perception on the role of public administration in knowledge society.
- Integrating new channels of communication (intelligent television, smartphones);
- The necessity of investments in the public infrastructure and employees' digital competences development.
- Enhancing the citizens' awareness about the contents and range of online service provision.

Overall, the benefits of e-services have a significant added value, expressed in improving flexibility and adaptability, reducing the administrative burden, improving the effectiveness and efficiency, risk reducing, transparency, administrative simplification, improving the work conditions, acknowledging the achievements and competences of public administration. In view to develop efficient e-services, intensely used by citizens and businesses, the administrations should have a holistic approach, should evaluate the e-services and create new services in a systemic approach, which will valorise the whole spectrum of e-service advantages.

Taking into consideration the increase of the social media popularity, it is obvious that the dialogue between administration and citizens will develop in this direction and the administration task is to valorise at maximum the potential of this communication channel.

At the same time with the enlargement of the e-service range, the challenge for administration will be to find the most modalities of digital interaction with the citizens. The digital solutions of administration should be compatible with the citizens' needs who start to become digital citizens. But at the same time, the interaction of administration with the citizens should not be difficult and complex. The administration should solve the aspects related to the digital divide, should concern to improve the employees' digital competences and should incorporate EU best practices into a common service delivery architecture for local government.

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