The base of this research was a comparative analyse of the international practices in the field, in order to identify the most important tendencies in public services management. Considering the results of this research, there were identified the foundamental principles of an intelligent management model for public management (subsidiarity, public value and deliberative governance). Starting from this point, we proposed a new intelligent management model applicable in romanian public sector, which can be structured into three major components: top management component (executive and deliberative), operational management component (back office) and communication component (front level). As a case study, we focused in particular on the water supply public service and we developed a methodology for projecting the front-office component starting from the necessity of optimising stakeholder satisfaction.

Key words: public management, intelligent services, intelligent public organizations, top management, back and front office

1. International theories and practices concerning the implementation of management models in public administration

In the theory of management, a definition of management models can be related with the concept of “model” which can be defined, in the vision of Karl Deutsch, as a representation of a real system in order to reveal the actual characteristics of the analysed situation, the selective operations by which these characteristics can be experienced, and the system of symbols by which this data can be presented. Applying this definition at the level of public administration system, we can consider that a public management model must integrate functions for organising, explaining, understanding and predicting the behaviors of the public administration system, which can be identified as administrative and political practices. The public administration system must be approached as a depended field, strongly conditioned by the influence and implication of stakeholders. In the evolution of public administration we have identified practices specific to different management models. The most important are the following ones:

1. The “public realm” management model, which is a creation of the nineteenth century and was developed because private markets were either bad at fulfilling social purposes or produced effects that were socially unacceptable.

2. The “orthodox” management model, which has some critical elements like: careers open to talents, consistency and predictability delivered through a rules based framework and limited scope for innovation below the highest levels of management. While successful for a long period, the “orthodox” model failed to adapt successfully to growing affluence. It was argued that public services had fallen behind the differentiation of tastes that was taking place in private markets. Bureaucracy was seen as an impediment to successful service delivery and “one size fits all” solutions were said to be incompatible with rising citizen expectations.

3. The “public choice” management model that offered a ready made philosophical foundation for scepticism about the role of the public sector. It suggested that self-interest motivates public
managers just as much as it motivates entrepreneurs in the private sector. The correct policy response must be to privatise where possible and open services up to competition.

4. The „new public management (NPM)” management model which is characterised by markets, competition, and targets. This type of model was adopted with enthusiasm in New Zealand and United Kingdom. However, this management model was criticised because it is considered to give more attention to outputs rather than outcomes and it doesn’t support the traditional values of public service, personal responsibility and professionalism.

5. The “third way (reinventing government)” management model, which is an evoluted form of NPM. It still has a focus on markets and competition above all else and gives a very weak account of citizenship – suggesting that users of public services should be defined as customers.

6. The “public value” management model is the most recent approach that correlates the shareholders value in the private sector by implementing corporative governance principles in the public services. The principal advantages of this management model are: improving efficiency, effectiveness or fairness in service delivery, introducing new programmes to respond to meet a new political aspiration or a new challenge facing the organisation, Recasting the mission of the organisation so that its old capabilities can be used more effectively and responsively, reducing the claims that government organisations make on taxpayers and reclaiming these resources for private uses.

Modern intelligent management models for public administration, has the quality to capture the notion of deliberative governance – the idea that citizens are more than consumers and ought to be able to influence the design and delivery of services. Public managers have to develop a continuous dialogue with their “authorising environment”, which helps to create pressure for continuous improvement. Furthermore, the involvement of citizens can allow managers to develop targets that relate to outcomes that the public genuinely value. It is also possible to use the management techniques to develop metrics and assess the quality of engagement with citizens.

2. A conceptual approach of an intelligent management model for romanian public administration

The starting point for developing an intelligent model for public management, applicable for romanian public administration system, is a diagnostic analyse of the operating mode for the public services, including modes of reforming, and also the relationship between the public services and the most significant stakeholders in its environment: central and local public administration authorities, citizens, public services operations, NGOs, international boards etc. There is necessary for this analyse to took place at a macro level, but the study must capture also the varieties of micro-level practices. The diagnostic of the romanian public administration system has revelead some major disfunctions regarding the managerial practices, that were reflected in a low degree of citizen satisfaction, generated by:

   a)    birocracy;
   b)    big costs and low productivity;
   c)    a great level of politisation of public management;
   d)    low transparency;
   e)    the lack of qualification of human resources;
   f)    unflexible and unstable structural organisation;
   g)    deficiencies regarding the organisational culture and leadership;
   h)    lack of efficiency and efficacity;
   i)    inexistence of an integrated information system for local public administration.

The conclusions of the diagnostic were that the public system needs a new type of leaders and a new kind of management practices, which are oriented for delivering quality public services to citizens and economic agents. Practically, the fundamental objectives of such a model can be resumed as: increasing the satisfaction level for the public administration stakeholders (citizens, businesses etc.), increasing managerial performances in local public administration by transforming the classical public management
system in an **intelligent** one, based on electronic administration principles. The principal **characteristics** of the proposed intelligent model are the following ones:

a) The system is developed on a WEB platform with interoperable applications, and the interface with the beneficiaries is principally based on an complex set of e-services and mobile services solutions.

b) The interface of the system has a great level of interactivity with the users and also flexibility, because his applicability must be both at central and local public administration levels.

c) The systems is structured on three components: top management component (executive and deliberative), operational management component (back office) and communication component (front level) (Figure no. 1).

d) A big level a subsidiarity which means that the decisional system of public management must be reprojected in order to increase the participation of citizens at decision processes. This also means promoting the concepts of e-Democracy and e-Participation.

e) The armonization of public services with the necessities and requests of the different stakeholders (citizens, businesses, public institutions and NGOs).

f) A big rate of reaction to different internals and externals stimuls.

g) Maximum transparency.

h) Informations rationality.

i) Efficiency and efficacity regarding the usage of management functions.

![Figure no. 1 The levels of an conceptual intelligent model for public management](image)

As it is shown in Table no. 1, the three components of the proposed management model corresponds to the three decision levels in public administration. Considering the subsidiarity which is the basic principle of the model, the most important decision level is the third one. Actually, the front office is the one that delivers “public value” to citizens and businesses and has a major influence on the quality of public services. Also, this component is in charge of obtaining feedback from the stakeholders, in refining public preferences and transmitting them to strategical and tactical levels. This is a model of deliberative governance, which creates pressure for countinuous improvement and innovation, based on the market reaction.

<table>
<thead>
<tr>
<th>Level</th>
<th>Component</th>
<th>Structure</th>
<th>Area of responsibility</th>
<th>Methods</th>
<th>Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Top</td>
<td>Executive and deliberative</td>
<td>Strategical and tactical decisions</td>
<td>Management by objectives, previsional management, management by exceptions, change management</td>
<td>Group and individual decision support systems, IT dedicated solutions</td>
</tr>
<tr>
<td>2</td>
<td>Operational</td>
<td>Organisational structures from tactical decisions</td>
<td>Operationalisation of tactical decisions</td>
<td>Project management, management by budgets,</td>
<td>Workflow management, digital</td>
</tr>
</tbody>
</table>

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inside the public institutions  
current decisions; integrating, analysing and transmitting decisions  
management by costs  
signature, ERP, distributed information systems, internal networks (Intranet, LAN etc.)

| 3 | Front office | Components specialized in PR | Communication between public institution and external medium | Case management, electronic information of citizens, research techniques, customer relationship management, workflow management | Information and communication technologies integrated on Internet platforms |

Table no. 1 Intelligent model components

3. Case Study: Front-office component optimisation: a stakeholder-oriented management model for romanian water supply public services

The performances of water supply public service are influenced by a large number of organisations from public or private sector, of different importances and sizes. The actions of those “actors”, defined in the context of this paper as “stakeholders”, have a great impact on the key performance indicators related to the water supply market. This impact can be splitted in three categories:

1. **Technical impact**:
   - the quality of the service;
   - the rehabilitasion of the supply network;
   - restructuring and reorganisation process;
   - the usage of modern technologies for water treatment, its distribution monitoring, and for the losses reduction;
   - the setting-up of purifying stations.

2. **Economical impact**:
   - the correct determination of the investments efficiency within external financing programs;
   - the promovation the economical analysis, according to the European standards;
   - a scientific base for the determination of the two-part tariff structure for water supply public services;
   - establishing the organisational and functional structure necessary for the external payment of public services taxes and the introduction of the unique bill;
   - setting-up possibilities for the implementation of specific management methods and techniques regarding the competition conditions or the natural monopoly;
   - introduction of unique indicators of benchmarking in order to monitor the operators activity efficiency.

3. **Social impact**:
   - the correlation of the population affordability level for these public services with their economic costs;
   - the reorientation of the operators activities in order to satisfy the needs of the consumers/beneficiaries;
   - conditions for economical water consumes, environment and limitated natural resources protection.

Considering the fact that the public water system is used by most of the inhabitants and private companies, the water supply service must fulfill certain standards and quality criteria. For this reason, when we refer to the stakeholder problem, we must consider that in this category can be included many other organisations, not just water supply operators, which play different roles in planning, controlling, informing the consumers, and taking decisions in the areas covered by operators. Generally, we can
identify seven stakeholders categories: operators, consumers, public administration authorities, guvernamental agencies and authorities, professional associations, research and development organizations and financing institutions. We consider that the principal management technique that can be used in the analyse of the stakeholder sector for water supply services is the stakeholder matrix. In order to define the importance and influence of each stakeholder, we can consider the following criteria:

- a) The capacity of the stakeholder to influence positively or negatively the performances of the service, that can be quantified by using an international benchmarking system such like the benchmarks developed by IWA (International Water Association) and IBNET (International Benchmarking Network for Water and Sanitation Utilities) or the ones promoted by World Bank. The capacity of the stakeholder is determined by the power to promote and sustain his interests on the market, by controlling important resources or key informations.

- b) The influence area of the stakeholder, which is determined by the number of inhabitants that are affected by his decisions, and by the covered geographical area of the service.

- c) The economic power of the stakeholder, described by the principal techniques and financial indicators of his activity, by the quantity and quality of the controlled resources, and by his capacity to attract financing institutions.

- d) The interest manifested by the stakeholder regarding the achievement of a high efficiency and efficacy level for the management and quality of the service.

- e) The social position of the stakeholder, which is gived by his visibility and credibility at local, regional, national or international level.

Considering this criteria, we can promote a classifying system for the stakeholders of water supply public service that groups them in 4 categories (A,B,C,D) and 16 subgroups (Figure no. 1).

![Stakeholder Matrix](image)

**Figure no. 2 Water supply service stakeholder matrix**

The first area (A) includes the most powerfull stakeholders from the water supply market, who have the greatest influence on the service performances. This means that any strategic action (legislative modifications, operators regionalisation, implementation of the binom tariff etc.) must satisfy their interests. In the A category we can identify the following „actors“:

- a) The most important water supply operators in the region, that covers a large geographical area and many beneficiaries. Generally, those stakeholders operates in big cities and has operating licences (from class I to III) from the National Regulatory Authority for Municipal Services). Also, they have a much greater financial capability then the other operators in the region.

- b) Regional Council, that administrate the public and private domain and is responsable to develop strategies, forecasts and economical development programs. This stakeholder can influence decisively the management of the service at tactical and strategical level, by increasing the cooperation between the local councils of the region, especially the small ones.

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c) A serie of operators with moderate influence and importance, that operates in medium towns with more than 30,000 inhabitants. Their influence is limited to the covered area. Usually about 15-20% of the region’s population is supplied by operators from this category.

d) Local Councils, with moderate influence which is given by their lack of capability to attract external financial resources. This is why European Union recommends their association in order to obtain finances to sustain regional development projects. Presently, in most of Romania’s small towns, local councils are also water supply service providers.

e) The Ministry of Administration and Interior, with moderate influence because of his responsibility to analyse the legal situations of the water supply public services.

f) Other ministries, authorities and governmental agencies (ANRSC- National Regulatory Authority for Municipal Services, Ministry of Environment and Water). ANRSC has a direct influence on the service performance by licensing the operators from the market, and the Ministry of Environment and Water is one of the principal organizations that can accelerate the process of infrastructure and service quality development by promoting European financing programs like FEDR (European Fond for Regional Development).

g) Representative international financial institutions (European Bank of Reconstruction and Development, European Investment Bank, World Bank, Council of Europe Development Bank etc.), with medium influence on the market considering the fact they control a large amount of financial resources, but their influence does not affect directly the quality of the service. In this context, a priority that operators must consider in order to increase the interest of these stakeholders is the use of some specific techniques such as: masterplans, cost reduction programs, post-feasibility studies, mathematical models for forecasting evolution of the tariff etc.

The second area (B) includes the stakeholders that are very important for the continuity of the service, but with small influence on the service performance. Although, considering their significant importance, there is a strong need to protect their interests. In this category we can identify the following stakeholders:

a) Consumers (population and companies), which represents the beneficiaries of the service. These stakeholders are affected first of all because of the monopolistic character of the service. Also, their actions are limited because of the lack of visibility and preoccupation of the organisations responsible for promoting the interests of the consumers, such as the Office for Consumer Protection, the Regional Directions of Public Health, some research&development organisations and the representatives of civil society.

b) National Administration of Romanian Water, represented by regional departments, who has the quality of unique operator for the surface and subsurface water resources. This stakeholder has a direct influence because of his responsibility to approve the regional water management strategic plan.

c) Federations and professional associations (Romanian Water Association and Romanian Local Authorities Federation). The influence of this stakeholders is insignificant and hard to be quantified, but their importance is high because they can accelerate the transfer of knowhow, disseminate best practices and increase the operators visibility. Those are premises for an intensification of investments in research and development and training of operators personnel.

d) The third area (C) includes stakeholders with moderate influence on the market. Also, these stakeholders doesn’t have a direct interest to increase the managerial performance and the quality of the service. For this reason, they can be considered a significant source of risk. Zone C includes:

e) A group of medium sized operators with small importance and influence because they cover a small part of their market (cities between 10,000 and 30,000 inhabitants).

f) The Prefecture of the region, that cannot be considered a stakeholder with significant importance, but that strongly influence the performance of the service. This stakeholder monitorise the implementation of projects which are financed by international institutions and verify the legality of the local public authorities decisions in the field of water supply service.

g) National Authority for Consumer Protection, represented by her regional offices, who monitorise the way operators respects the rights of the water supply service consumers.
h) Finally, **the fourth area (D)** includes the stakeholders with limited or unknown influence and importance. Even so, their interests must be considered in the regional development strategy. The stakeholders includes **the rest of the water supply operators**, who operates in small sized villages, with less than 10,000 inhabitants. Even their influence and importance is very limited, if they are grouped in associations, they can become a powerful decision unit. Generally, about 30-40% of the region’s population are supplied by this type of stakeholders.

By identifying the connections between the importance and influence of the key stakeholders, on the one part, and the management performance and service quality, on the other part, we can evaluate the efficiency and the potential risks of the current organisational and functional framework of the supply system. This analysis can be used to identify way of action in order to implement european directives regarding the operators regionalisation and the promotion of local council associations in order to access the financial resources needed to sustain regional development projects.

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