

## EVALUATION OF THE GLOBAL PERFORMANCE FOR WATER SUPPLY AND SANITATION SERVICES OPERATORS

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### ABSTRACT

*Performance analysis and measurement is not an easy thing, especially since the very concept of performance is difficult to define and explain. For an economic entity, having performance means above all being effective and efficient. If, for the enterprise performance concept, the aspects are mostly clarified and explained, the definition of public service performance for water supply and sanitation has a series of specific meanings, based on the purpose and desire for such services. In this article we develop a comprehensive performance analysis framework for water and sanitation services.*

**KEYWORDS:** *corporate social responsibility performance, public-private partnership sustainable, public services.*

**JEL CLASSIFICATION:** *L25, L3, L95*

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### 1. INTRODUCTION

Performance analysis and measurement is not an easy thing, especially since the very concept of performance is difficult to define and explain. For an economic entity, having performance means above all being effective and efficient. The entity is effective if it achieves its objectives and is efficient if it maximizes the results obtained (physical or values), using a given amount of resources (means). In other words, a company is effective if it succeeds to put into practice a strategy already defined and is efficient if it continuously improves the cost-value relation (taking into consideration the fact that achieving a certain level of productivity is not enough, since the allocation of resources or costs have to be done mainly in order to create a perceived value for shareholders, customers and other stakeholders).

Performance can be defined as achievement of organizational objectives, regardless of their nature and diversity. Ensuring the enterprise sustainability, designed as general strategic goal for all businesses, cannot be currently achieved only based on its financial viability. Consequently, the financial performance becomes just one part from a mixture of aspects defining a powerful organization. The social and environmental demands raised by new categories of stakeholders (customers, NGOs, employees etc.) requiring a certain way to operate for the company, have quickly led the transition from the simple financial representation of performance to a more complex representation, integrating the social and environmental dimension related to the corporate social responsibility. Protecting the environment and ensuring long-term economic growth become complementary and interdependent aspects, thus ensuring the operationalization of sustainable development. In this way, the concept of sustainable development includes ensuring a continuous and constant development, based on strategic pillars, such as: a) economic growth b) social equity, c) a healthy environment; and also the following dimensions:

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d) cultural identity and e) institutional development or partnership for sustainable development.

## 2. LITERATURE REVIEW

It is recognized the fact that currently the overall development is based on ecosystems health, social equity and good organizational governance. In the long run, all business activities are based on the worldwide ecosystems health. The enterprise becomes a subject of interest for a wider range of stakeholders: environmental organizations, human rights and so on. Perception and deliver of organizational performance based on social responsibility can influence: the competitive advantages, the reputation, the ability to attract and retain employees, the customers, the clients or users, maintaining an ethical, committed and productive work environment, having a better appreciation from the investors, shareholders, donors and general financial community, and creating better relations with media, suppliers, governmental and non-governmental organizations and the general community in which it operates.

We conclude that, for the enterprise, the social responsibility is reflected in mixing the three dimensions of sustainable development, taking into consideration that the overall development is ensured by achieving three major goals (Tabară, Horomnea, Nuță, & Dincu, 2007):

- economical: creating wealth using sustainable methods;
- environmental: responsible management and resources conservation;
- social: involvement and equality for all social groups.

The interaction of the three dimensions of sustainable development gives content for the overall enterprise performance. On the other hand, it must take into account the fact that the organization in achieving the objectives need to effectively manage and control potential risks (Sabau, Sgardea, Tutu, & Turlea, 2009).

If, for the enterprise performance concept, the aspects are mostly clarified and explained, the definition of public service performance for water supply and sanitation has a series of specific meanings, based on the purpose and desire for such services.

The organization, development and management of water supply and sanitation services, as well as all categories of public utilities, should provide:

- a) quantitative and qualitative users requirements, according to the contract provisions;
- b) population health and quality of life;
- c) economical, legal and social protection for the users;
- d) optimal functioning, based on safety for people and services, profitability and economical efficiency for buildings, plants, equipments and facilities, according to the technical details set-up and the specifications related to the development instructions and service regulations;
- e) introduction of modern management methods;
- f) introduction of modern methods of design and implementation for strategies, policies, programs and / or projects related to public utilities;
- g) protecting the public and private domain and the environment, in accordance with the specific regulations in force;
- h) informing and consultation with the local beneficiary communities for these services;
- i) acting based on the market economy principles, in order to ensure a competitive environment, restrict and monitor the monopole areas.

The requirements for such a service are numerous and cover a very wide range of interests: from quantitative and qualitative users satisfaction, to ensuring the market economy principles and a competitive environment. It is difficult to assess, in such a sequence, if all these requirements have same importance and relevance related to the recipients of these services. And obviously, it is more difficult to indicate which one of these requirements may be or not a criterion for assessing the service performance.

In Bucharest, the General Council is in charge with organizing, regulating, directing, coordinating, monitoring and control of water and sewerage services, based on the current legislation and the Concession Contract between Bucharest and SC Apa Nova Bucharest SA.

In the Statute of organization and functioning for public water supply and sewerage services in Bucharest, it is stipulated that the local authorities from Bucharest, through the organization and development of water and sanitation services, have the following objectives:

- (a) improving the living conditions for the citizens of the city;
- (b) sustainable services development;
- (c) providing a modern urban infrastructure, as a basis for economical development;
- d) environment protection.

We can conclude that the purpose of water supply and sewerage services is precisely achieving the four objectives, although, in our opinion, the improvement of the living conditions for citizens should be highlighted as the primary objective, whose achievement can be done by fulfilling the other three objectives.

The achievement of this fundamental objective, the improvement of citizens lives and other objectives related to sustainable development of the service itself, the environment and also the overall economical development represent the content of public water and sewage service performance. And achieving this performance depends on the management of this service, which requires consistent involvement of three main categories of actors: the local authorities, the service operator and the consumers who benefit from this service and pay its value.

In Bucharest, a wider range of actors, considered representative stakeholders, are involved in the water supply and sanitation services management and monitoring process: The National Authority of Municipal Services – ANRSC, The Municipal Authority for Public Services – AMRSP, The National Administration for Romanian Waters - ANAR, The Ministry of Environment and Forests, the committee of international experts, World Bank, The Autonomous Enterprise for Thermal Energy Distribution - RADET. Each of them has a certain interest regarding the water supply and sanitation services.

Obviously, the biggest expectations are clearly the ones coming from the users, both those who already have drinking water and sanitation services and also those who still do not have access to these services. The industrial and household owners' associations are basically those who pay for these services. These groups are best placed to assess whether the public services that they receive are satisfactory or not and whether these services actually work, are efficient and of high quality. However, they do not always have all the information needed to assess the effectiveness and sustainability of the service performance.

The performance of a water supply and sewerage service can be considered satisfactory if three conditions are met (Payen & Roche, 2012):

- the sector governance is good, which means that each actor / stakeholder is able to play its role fully and in a way that is useful to the service, without any interference or external obstacles, taking into account the diversity of particular situations, and permanently optimizing the costs for the consumers benefit;
- every actor / stakeholder fulfills its role efficiently, which means bringing their contribution to the collective effort in an optimal manner (including the economic contribution);
- the service is delivered effectively, based on the users (consumers) expectations and according to the social and environmental requirements.

It should be noted that the current regulation system for service water and sewerage service in Romania considers explicitly that the public interest of local communities is a priority in the management and development of public utilities. The provisions of Law no. 51 from March 8, 2006 for public utilities services are focused on the complete users' requirements satisfying, the protection of their interests, the strengthening of the economic and social cohesion in local communities and also the sustainable development of administrative units.

It is stated that local authorities are at the heart of performance issues, because they are fully responsible for making the decisions related to satisfying the interests of the community and the organization, the operation and development of water and sanitation service. Moreover, we can talk about public social responsibility regarding the concept of sustainable development for local authorities.

The General Council of Bucharest has exclusive jurisdiction in all matters related to:

- a) Approval of local strategies for setting-up, organization, management and functioning of water service and sewerage service;
- b) Approval of investment programs regarding the establishment, development, modernization and upgrading of the technical infrastructure for this service;
- c) Approval of all regulations and specifications related to this service;
- d) Management and approval of delegation procedures for organization and functioning;
- e) Approval of the performance indicators for this service (art. 10, para. (1), from Law No 241 of June 22, 2006, for the water supply and sewerage service).

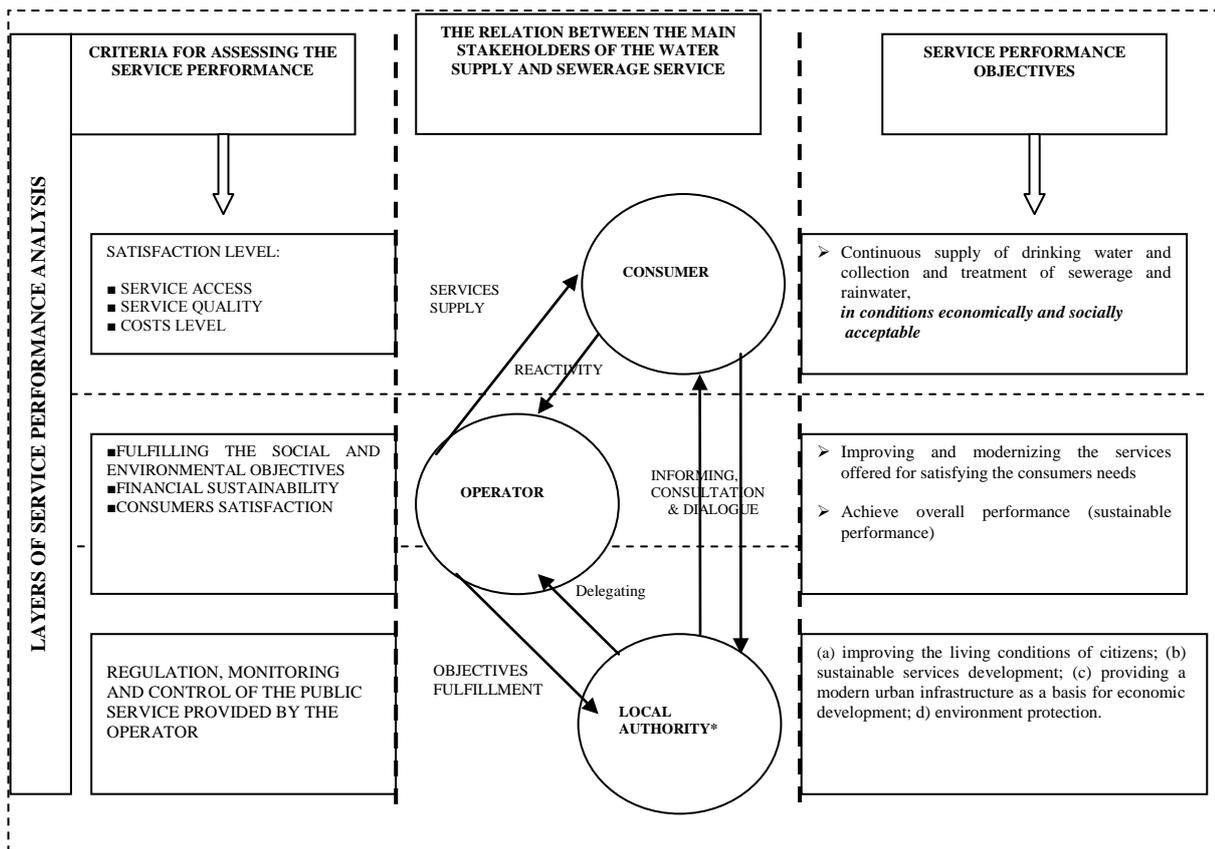
The General Council of Bucharest formulates its own development strategy for development and functioning on short, medium and long term, regarding the water supply and sanitation service, taking into account the urban plans, the socio-economical development municipality programs and the international commitments related to the environmental protection (article 11 of Law No 241 of June 22, 2006 for water supply and sewerage service). In this way, based on its duties and powers, the General Council of Bucharest acts as guarantor for the welfare of the citizens from Bucharest, starting from a clear and secure strategic vision in making this happen.

Unfortunately, the problem of an efficient management for this service is a difficult task for the local authorities in general. In Bucharest, the inability of the local and central authorities in ensuring the funds required for the rehabilitation and development of water and sanitation services, in order to offer quality indicators for the consumers' needs and environmental protection, has represented an essential argument in leasing this service.

The public-private partnership has become one of the major challenges of public management for the beginning of the third millennium. The need for this public-private partnership finds its legitimacy in both the objectives of the local authorities, as well as those of the private operators. The first part has the obligation and responsibility to identify how the services provided to the public can be implemented, according to the needs expressed by society, and the second part, the private operators, have the responsibility to achieve the best cost-benefit balance. The public-private partnership allows the alignment of the two roles mentioned above. However, before choosing such a partnership, the local authorities should understand and identify the possible benefits, any potential risks and efficiently control the process allowing the success of this partnership (Radu, Lefter, Sendroiu, Ursăcescu, & Cioc, 2008).

The public-private partnerships performance related to the water supply and sanitation services is a complex concept. The most obvious benefit for a PPP is the service efficiency and improvement of the technical system performance, with direct implications on increasing the service quality.

We can conclude that the consumer should be the centre of the water supply and sewerage service performance objective (Figure 1). Its requirements, regardless of the category to which it belongs: domestic or industrial, can be analyzed from three major perspectives: *the access to service, the service quality and price levels*. In the interest of the consumers is the local authority, which, based on the local management, implements the regulation, monitoring and control mechanism for the service provided by the operator. On the other hand, the operator is within the three development dimensions: economical, environmental and social, requiring the achievement of the global performance goal, improvement and modernization of the services subordinated to the consumer needs.



**Figure 1. The performance system for water supply and sewerage service**

Source: authors

\* For Bucharest, AMRSP is the body responsible for the technical monitoring and assessment of the performance indicators implementation level (service levels) of public water supply and sewerage services in Bucharest.

### 3. RESEARCH METHODOLOGY

For the public service of water supply and sewerage, the performance evaluation, due to its multidimensional nature, is achieved using different measurement criteria, obviously based on the purpose and objectives of the analysis for which are used.

It is difficult to formulate a set of indicators for the assessment of water and sanitation services overall performance, especially when, unlike the financial performance component, which is highly quantifiable and is easy to measure, the environmental and social dimensions are based more on non-financial indicators, which are more difficult to assess.

The International Benchmarking Network for Water and Sanitation Utilities (IBNET) uses three categories of performance indicators in the benchmarking analysis for water supply and sewerage services: operational efficiency, financial sustainability and consumers' reaction (Van den Berg & Danilenko 2011). The operational efficiency evaluates the utilization method of the production factors during normal activity and depends not only on the current management quality, but also on the previous practices and decisions taken, including the ones related to investments. The social and economical environment influences greatly the efficiency level, as the local prices and specific regulations, the ones related to environment or labor relations, among other factors, affect critically this level. One can appreciate this level of efficiency (Van den Berg & Danilenko 2011) through two indicators: *water not invoiced* and *staff productivity*.

Financial sustainability is a key indicator in assessing the performance of water and sewerage service. If the service cannot at least cover the operation and maintenance costs based on the operating income, it is in a difficult situation in terms of maintaining the infrastructure running and hence there is a continuous deterioration of service quality provided. On the other hand, even if there is sufficient operating income, the lack of liquidity can appear due to late payment of invoices by customers/consumers. Consequently, *the coverage of operating costs and the bill collection period* are two representative indicators in assessing the financial sustainability. Also, the assessment of the customer reaction can be done based on the *affordability service level*, whose analysis can also lead to the long-term service sustainability evaluation.

#### 4. FINDINGS AND DISCUSSIONS

Development of a comprehensive performance analysis framework for water and sanitation services operators involves taking into account, in an integrated manner, both the benchmarks which determine the performance of these services and the objectives performance which any economic organization must achieve, in order to guarantee its survival and development. In these conditions, we propose to analyze the overall performance based on the following matrix, as its evaluation

Analysis perspectives ↓	Analysis Criteria ↓		
	Economical performance	Social performance	Environmental performance
Internal processes perspective	<ul style="list-style-type: none"> <li>➤ Productivity</li> <li>➤ Water with no income (not invoiced)</li> <li>➤ Financial balance</li> <li>➤ Rentability</li> <li>➤ Investments</li> <li>➤ Creating value for the stakeholders</li> <li>➤ Financial sustainability</li> </ul>	<ul style="list-style-type: none"> <li>➤ Work conditions</li> <li>➤ Social dialogue</li> <li>➤ Professional development</li> <li>➤ Organizational culture</li> </ul>	<ul style="list-style-type: none"> <li>➤ The greenhouse gas emissions</li> <li>➤ Use of natural resources</li> <li>➤ Protecting natural resources - reducing pollution</li> </ul>
Clients/consumers perspective	<ul style="list-style-type: none"> <li>➤ Providing quality services</li> <li>➤ Service level</li> </ul>	<ul style="list-style-type: none"> <li>➤ Service affordability</li> <li>➤ Participation to projects for protecting the historical or cultural heritage</li> </ul>	<ul style="list-style-type: none"> <li>➤ Increase of the public awareness for the environment</li> </ul>
Stakeholders perspective	<ul style="list-style-type: none"> <li>➤ Achieving the concession contract objectives<sup>i</sup></li> <li>➤ Tax compliance</li> <li>➤ Compliance related to reporting obligations</li> </ul>	<ul style="list-style-type: none"> <li>➤ Sponsorship activities</li> <li>➤ Know-how transfer</li> </ul>	<ul style="list-style-type: none"> <li>➤ Partnerships and environmental actions</li> </ul>

criteria are the center of various plans / evaluation perspectives, as shown in Table 1.

**Table 1. Framework for analyzing the overall performance of water and sanitation services operator**

*Source:* authors

These facts have been considered for defining the following criteria:

- The main dimensions of the operator's interaction in developing its current business, which basically also give the prospects and performance analysis plans: the internal processes plan which favors the analysis of activities in all their operational components: innovation and investment, customer management processes, technical-operational processes, environmental protection processes, and processes focused on developing and protecting the human resources interests.
- Even if the operator provides a public service of highest importance for the welfare of the citizens of a community, the value improvement conditions for shareholders should also be taken into consideration. Certain criteria are considered in order to increase turnover and productivity (optimization costs, asset utilization optimization etc.), criteria which are subordinated to the achievement of financial and economical performance premises.
- For the water and sewerage supply services, the issue of overall performance objectives is more complex, as the requirements of environmental development and protection, related to water and sanitation price which determines a certain level of affordability of our services, generate consistently every year a reduction in the volume of water sold. In these circumstances, the objectives of economical and financial performance should be properly correlated and evaluated together with the social and environmental performance objectives.
- Achieving the economic performance is a prerequisite for achieving the social and environmental performance. Instead, sustainable development is a first step for improving the organizational performance. This long-term approach allows its implementation, due to the expansion of the overall strategy in managing the relationships with stakeholders, in order to better manage the risks. It represents an engine of economic growth by stimulating innovation which always generates competitive advantages. Sustainable development represents for the company a source of progress and value creation.
- Creating value for customers / consumers is the key objective of the services provided. In these circumstances, their satisfaction analysis is done based on the quality of the service provided, the access to services and the costs charged by the operator. The relation of the operator with its clients and consumers is a sine qua non condition of its sustainability.
- Monitoring the operator's activity by the stakeholders through a set of service levels defined in the delegation (concession) contract seeks achieving the essential objectives for the services quality. Therefore, the achievement and compliance of service levels standards requires from the operator development and maintenance of the water supply and sewerage system.

## 5. CONCLUSIONS

This way of assessing the overall performance requires an efficient analysis of the relevant financial and non-financial values, even if global complex systems have been developed in order to quantify the environmental and social performances. However, these systems do not allow a significant integration of the three dimensions of overall performance.

Measuring the overall performance of the water supply and sewerage services operators requires a deep trial and judgment. Focusing on commercial performance means bringing market principles in the public water supply and sanitation sector. Until 1998, in Bucharest, the service supply practices were far from a commercial performance management and this situation was caused by the interference of other influence factors (political environment, permissive legislative system, relational system). These practices had as result non competitive costs, unable to sustain the service quality level increase, an imperfect management system for the customers' relations and bad costs control policy.

All these policies should be measured and quantified and the dynamic analysis of the effects produced for the overall operator's performance should offer the possibility to permanently identify premises for sustainable development, both for the operator and the local community served.

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<sup>i</sup> From november 2000, SC Apa Nova Bucharest SA is, for a period of 25 years, the concessionaire of water and sewerage service in Bucharest. Concession of these services was assigned based on an international tender sponsored by the World Bank. The specifics of the concession is to ensure the lowest average price for 25 years, which requires the concessionaire to achieve 25 levels of technical and commercial services. The concession contract is results-oriented, leaving for the concessionaire the freedom to act as he sees fit for its obligations from the contract.