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Characterization of accounting systems of community operators of public utilities services

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Abstract

For an efficient management of the public services and their operations, regardless of their organizational form, must have a financial and accounting informational system designed and structured in such a way to meet the informational requirement of the management process. The main objective is to highlight the importance of financial-accounting information in the strategy of sustainable development of European public utilities. The results of this analysis, mainly focuses on the role of the financial-accounting information in the management of the operators and in ensuring a strategy regarding a sustainable development of the European public utilities services.

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Open access under [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).*Keywords:* informational system, financial-accounting system, informational circuit, public services operators, sustainable development;

1. Introduction

The financial-accounting information plays an important role in the management and reporting of public utility services operators (Nor-Aziah and Scapens, 2007), but its role is different and is very difficult to assess and there is a conflict in this respect, between the public and private sector (Potter, 2002). In order to increase the public sector's efficiency and, in particular of the public utility services, there was and still is, in the developed and in the developing countries, a trend to pass these services in the private sector, considering that a private management is far more efficient (Hopper and Hoque, 2004). Another phenomenon that has led to a change in the accounting of these services has been the corporatisation that led to the awareness of the managers from the public sector on the financial efficiency of public utilities services. In Romania there is a trend to externalize the public utility services, but as for the district heating plants or the district water supply and sewerage, it is not preferred to lose the control over the operators in these fields. The result of this is that the Romanian operators are usually organized as autonomous or partial or full state-owned companies.

The reasoning and motivation of this research is to highlight the need for implementation of an integrated management system encompassing a financial accounting information system, appropriate to the specific activity, being the basis of one of the fundamental objectives of operators - the necessary funding to ensure a sustainable development of the services.

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The research methodology of this article is based thus on observing the implications and relevance of information provided by financial accounting information system of the European Community operators of public utility services on their management process.

Do these public utility operators have to have an informational financial-accounting system that needs to meet the requirements that are specific for the activities they do, or is there possible to implement a financial-accounting system that is common to other general areas of the economy? This is the question at which we are trying to find an answer through this work. In this respect there is a high importance of the flow of information from the moment of producing a phenomenon in a process until, on the basis of knowing it, a new event is being triggered (Matis and Candrea, 2005). The literature also states that an informational system is created and developed along with the activity that it reflects. Taking into account the dynamic nature of the economic system, in an objective way the informational financial-accounting system has to be in a continuous adjustment and improvement to meet the requirements from the field of public utility services.

The operators from the public utility field, especially those who manage sanitation or wastewater treatment services, must also keep the books related to the environment. This is part of the managerial accounting, but it must be served by a separate informational system (Gao, 1995). The environmental accounting is associated with the term of eco-efficiency, and the main feature is presenting the information related to the environment separately from the financial information related to the items presented (Schaltegger and Burritt, 2000).

This paper represents a study of the organizational structure and of the financial-accounting systems of the public utility services operators, as well as of the financial statements but especially of the accounting policies specific to the activities in this field. Referring to the financial statements, the literature is very rich, given the fact that the access to the information related to external reporting is easier compared to the access to information related to internal reporting (Richards and Gladwin, 1999). Thus, the data on monitoring and internal reporting are very difficult to obtain, which affects the elaborate study of environmental accounting as part of managerial accounting of the public utilities operators (Simons, Slob, Holswilder and Tukker, 2001). Although very different in terms of quality, environmental reporting and accounting is growing and have resulted in the issuing of useful reports to shareholders and other interested parties (KPMG, 2005).

2. The characterization of informational financial-accounting system – data processing system

In the management of public utilities services there should be a system to ensure the collection, processing, transmission, providing of financial-accounting information (Chai and Wen, 2010). Also, if the providing of information takes place electronically, it is necessary that the informational system to meet the requirements of the financial-accounting system of the operators, this being a basic component of the informational system. Currently, in the literature, due to the very high degree of computerization of the informational financial-accounting system existing in the Western companies, there is the trend to unify the concepts of data processing/computer system and informational financial-accounting system.

Regarding the form of accounting adapted to automatic data processing systems, the law regulates its use, as well as the conditions to be accomplished by a financial-accounting system. According to the Regulation implementing the Accounting Law, the individuals and legal persons using automatic data processing systems are obliged to ensure compliance with the accounting rules, data warehousing, keeping it under the form of technical support and control of the data registered in the accounting, and the organization of the system of automatic data processing has to provide all the necessary information for a possible control (Oprean, Racovitan and Oprean, 1994). According to the law, the requirements that a data processing system has to meet are the following:

- to specify the type of support for the retention of data entry as well as the lists of the entries made in the book-keeping, based on the documents that are to be numbered in chronological order, the insertion, interpolation as well as any subsequent additions or deletions are forbidden.
- The systems must clearly state the origin, content and belonging of each data; each data must have at its basis the content of a written document.
- The systems must allow, at any time, restoring of the elements and content of accounts, of the list and

information under control, starting with the entries, or vice versa, from the synthetic content of accounts, of lists or other documents upon which the input data can be determined.

- All balances must be the result of an account and where appropriate, of a previous balance of that account.
- Each entry must be based on identification elements of data subject to processing.
- The automatic data processing procedures must be organised in such a way to allow monitoring of compliance with the existing rules on data security and reliability of the data processing system.

The informational financial-accounting system of a service operator should not be conceived in relation to automatic data processing, as there are operators who lack such means. Regardless the mode of collecting, transmitting and processing the information (manually, automatic, semi-automatic), these can take many forms, from the point of view of the human perception: text, image, etc.

Due to the specific business requirements of operators and the needs of a community or region regarding the public utilities services, there are big differences between the implemented informational financial-accounting systems, from the point of view of their complexity and activity, as well as from the way they are organized and function or of their legal form. The quality of the results of an informational financial-accounting system heavily depends on the training of personnel, the informational and communication technologies which are available at a certain point in time, but also on the financial possibilities of the public utilities services operators.

The financial-accounting system is the most important component of an operator's informational system, managing basic information from the specific activity of public services, such as: information about the volume of the delivered drinking water or the heat that has been produced, the quantity of waste collected and stored, contract compliance, regularity of supply with raw materials, returns, payments, permanent record of the accounting operations, etc.

3. The evaluation of the informational financial-accounting system of public utility services operators from the perspective of industry regulations and the monitoring system of regulators

The evaluation of the informational system of the public utility services operators aims to highlight all the specific activities and the existing informational flows, of the amount of processed information, the area of the informational system and the existing computerized endowment, to highlight the qualities, limits and deficiencies of the current informational system, in order to establish the general requirements that will be provided through a new informational system that will be implemented (Greiner, 1998).

Thus, in the analysis of the informational financial-accounting system we take into account the following stages:

- delimitation of the area of existing informational system;
- reflecting the activities and operations of collecting, transmitting and processing the data specific to the existing informational financial-accounting system;
- detecting the necessary changes in the organization and functioning of the informational financial-accounting system;
- highlighting the existing computer endowment;

The analysis of the informational system of the public utilities services operators is necessary to substantiate the directions of its improvement and modernization (Radu, 2009), and also to satisfy all the informational requirements of the executive management and of the functional structures. This analysis, from whatever viewpoint it is achieved, it is not strictly limited only to issues of accounting the transactions made in the company, but only together with all the elements that generate these transactions, elements of which source is to be found in other informational sub-systems: purchase, sale, production, staff, etc. In order to achieve the analysis of the existing informational financial-accounting system of the public utilities services operators, one should consider the following steps: documentation for the analysis of the informational financial-accounting system, selecting the analytical procedures, the study of the components of the existing informational system, critical evaluation and development of alternatives for achieving the informational financial-accounting system.

The analysis of the existing financial-accounting system is required by the management of the operators under the form of an unplanned mission of internal audit (which is not included in the annual internal audit plan),

conducted by internal auditors of the internal audit department (Radu and Vladeanu, 2004). Given the complexity of the analysis of the informational system, the internal auditors require the collaboration with IT professionals. The aim of this analysis is to identify the useful information, to eliminate the redundant one and to formulate informational requirements for a possible new system, requirements that are to be found in the conclusions drawn by the internal auditors in the internal audit report.

The financial-accounting systems of the public utilities services operators have to function according to:

- the way of the organization and management of the operators;
- the main object of the activity;
- the features of the processes carried out as a part of the public utilities services;
- the management strategy and tactics in achieving the duties;
- the main options for developing the offered activities and services;
- the main documents used;
- the involved functional structures;
- frequencies and deadlines for the documents;
- the existing computerised endowment;
- the possibility to assimilate it under the condition to improve the informational financial-accounting system.

The financial-accounting department is under the responsibility of the chief accountant and ensures the performance of tasks that come from the implementation of the approved plan, as well as those set by the superior body and its management in the financial and prices field. Staff of this department has duties and responsibilities in the following fields:

- financial planning;
- economic analysis;
- financing the investments, pricing and tariffs, costs;
- financial internal control, accounting.

In the financial-accounting systems of the operators, the documents prepared as a part of the organizational structures have to respect the principle of fidelity, correlating with the system of indicators used for management, monitoring and controlling the activities that are taking place within them. In Romania, there is a lack of informational structures, mainly at the level of local authorities that manage public utilities services, which are to generate sufficient processing means used by the staffs that, from this point of view, is often insufficiently qualified. Another analysed indicator is the frequency of distributing the financial-accounting information. Making decisions on time by the management of public utilities services operators depends on the rate of transmission of information to the end users. The slow transmission rhythm causes the appearance of high frequency response, thus the information becoming insufficient and outdated (Boghean, 2005).

4. Accounting information system architecture of the operators of public utilities services in the context of ensuring sustainable development

According to the systemic vision upon organizing an economic entity, organization also found in the case of public operators of utilities services, the organizational structure of the informational system is made up by three sub-systems:

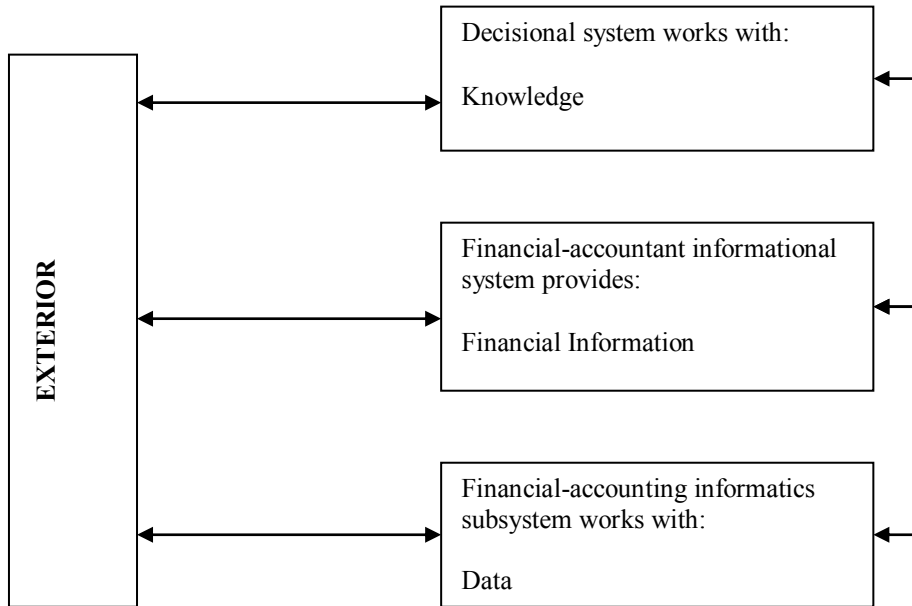


Figure 1. Place of financial and accounting information system and the connection to external distribution channels of data, information and knowledge (the proposed processing)

The three systems interact with the exterior environment and each of these conveys flows of knowledge, information and data. As it can be noted, the informational financial-accounting system is part of the informational system of operators, and the informational financial-accounting system is part of the operational system of operators where data are mainly operated. The highest level of refining data and information – knowledge- is found in the decision-making system. Based on knowledge and information, decisions that affect the entire informational system, as well as other systems of the operators are made (Irani, 2002).

The structure of the financial-accounting system of the public utilities services operators is similar to the accounting system in the sense of a general accounting plan, at which several characteristics generated by the informational requirements appear, related to management and regulation, as well as to the requirements of managerial decision (Haiduc, 2005). In this way, we start from the complex and complete structure of the financial - accounting system that comprises:

General aspects:

- general provisions
- book-keeping terminology
- chart of accounts

General accounting (financial):

- rules of determining the assets and the financial results
- operation of general accounting accounts
- documents of accounting summary

Analytical accounting of operation:

- operations taken from the general accounting
- exclusive operations of analytical accounting

The informational financial-accounting system also represents a source of information for various economic and financial analysis, which are useful to the decision-making factors, namely to the shareholders, stakeholders or

interested parties outside the company, such as: banks, insurance companies, assessors, etc. In its turn, the informational financial-accounting system uses information which comes from other informational spheres of the operators: sales, rendered services, provisioning, personnel, finance, etc. The data processing component of the informational financial-accounting system has the role to provide and process accurate information, in a timely manner, for all authorized users, regardless if they are decision-making factors or not (Turner and Weickgenannt, 2009). The data processing financial-accounting system should be able to automatically retrieve data from other systems.

The architecture of an informational financial-accounting system of a public utilities services operator must necessarily include the analysis of the activities that take place within this system, how to supply information and the recipients of the information provided by the informational financial-accounting system. The schematic diagram of the context in which the informational financial-accounting system works is:

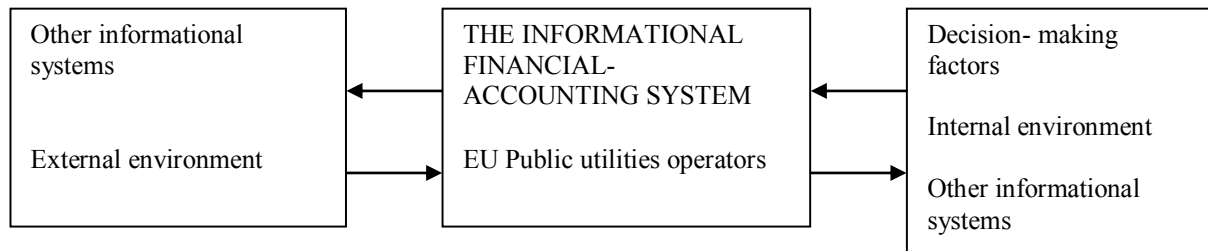


Figure 2. The context in which the informational financial-accounting system operates (proposed processing)

Regarding the activities carried out by financial-accounting system, these are numerous and complex. Most of these activities revolve around the accounting operations, constituting the basis of the informational system.

The accounting operations form the financial vision upon the activity of the operators, through the means of the accounts, which means that almost all the information resulting from this informational system are obtained from taking over the information from the accounts. These accounting operations can be: operations based on supporting documents (invoices, statement of account, receipts, etc) and operations generated on the occasion of monthly/annual closure of certain accounts (Mates, 2006).

In the context of the existence of an informational integrated system, some accounting operations may be generated automatically or semi-automatically, by taking over from other existing informational systems within the company: production, suppliers, sales, human resources, etc. Thus, in order to have a powerful informational financial-accounting system, this one must be analyzed, designed and implemented only in conjunction with the other components with which it interacts within the company, utility or institution that manages the public utilities. The purpose of registering the accounting operations is found in the following informational outputs (Mates, Peres, I. and Peres, C., 2005):

- Basic financial accounting reports: account records (analytical, synthetic), trial balance (synthetic and analytical), account books, statements of income and expenditure, paid and received cash flows; the informational system must be organized in such a way that these reports to be available at any time and for any period;
- Reports of summary accounts: balance sheet, profit and loss account, notes, financial statements;
- Reports of monthly, quarterly and annual closing of certain accounts: declarations of VAT, income tax, other statements regarding the state debt;
- Charts on the dynamics of expenditures, revenue and other accounting components which lend themselves to graphical representation;
- Analysis of accounts to capture certain states of economic and financial indicators;
- Further analysis and reports.

An important element of the financial management is the control through budgets, a very important control in the case of the operators with majority state capital or of the autonomous administrations and of the specialized departments within local or county public authorities. This control involves the design of anticipated revenue and expenditure budgets, as well as monitoring compliance. Tracking them is reflected in the calculation of indicators to highlight deviations from budgets, but also positive related phenomena, such as: lower expenses than those projected, higher revenues than those anticipated, etc. Budget tracking is also done with the help of general accounting, this one being the provider of real information, with which the forecasts made by budgets are compared.

The financial-accounting system is a part of the informational integrated system of the operators. The concept of integration, from the point of view of informational systems, namely, the integrated informational systems, refers to regrouping several informational systems that can function independently, but are able to communicate with each other, that are to all functions as one data processing system, to be part of it. From the informational point of view, as a matter of fact the informational financial-accounting system is in itself an integrated informational system, because each informational department has its own organization, but communicates in the sense of information and decisions exchange, both in analogy as well as in electronic form with other departments.

5. Conclusions and Recommendations

The consistency between the levels of organizational structures and the categories of information needed for each department that is involved, is required, and the amount of circulated information within each department must ensure a timely execution of activities. Due to frequent legislative changes in the financial-accounting field, there appear new requirements for the informational system, which have to be continuously adapted. Thus, a major importance has to be given to the modernization of the financial-accounting system. Also, the job descriptions must be updated according to the existent reality in terms of tasks of the persons involved in the informational financial-accounting system.

The operators of public utility services must continually pursue the improvement of the informational financial-accounting system by increasing the company's level of endowment with electronic computing equipment for data collection, transmission and processing. The complexity of the activities of community public services, the nature of services, the limitation of resources while increasing and diversifying the demand for quality services, represent the premises of defining and measuring the concept of performance in public utilities field. Through the constructive research, the problem of defining, measuring and scattering the performance of financial-accounting systems of the public utilities operators has been structured, at national and international level, being identified the statements of the concept of informational performance in literature, in the view of national and international setters.

The financial-accounting system has to be interconnected with all other systems of the public utility services operator in order to provide different reports useful for management decisions, reports that contain combined information both financial and technical or related to the operational activity. The British users of the information provided by the financial statements and specific reports put an emphasis on the financial implications of the different measures and investment plans, as well as of the current activity carried out within a certain period of time.

The serving personnel of financial-accounting system also has to assess, together with the operational technical personnel, the impact of different losses in the managed networks or the system's failures upon the financial position and economic performance of different losses in the network or of systems' failures. Thus, the information reported to the management of the operators must help making timely decisions in order to reduce or eliminate all the causes that lead to those losses and failures. These decisions involve investments whose funding could be harder or easier to get, depending upon the financial capacity and the reliability of the operator in front of the financial institutions.

At the European level, there must be a strategy regarding the sustainable development of public utilities services, as a vital component of the economy with a decisive role on the life of European communities, and at the basis of this strategy there must be other information provided by the integrated financial-accounting and technical systems of these.

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