SERVICE PERFORMANCE IN HIGHER EDUCATION: MEASUREMENT AND REPORTING

PhD Thesis Summary

Scientific coordinator:

Full Professor Adriana TIRON TUDOR, PhD

PhD student:

Andreea Ioana COSTE

Cluj-Napoca

2016

The contents of PhD Thesis Summary

PhD thesis contents

Keywords

Introduction

Service performance in the public sector is a current topic and constantly expanding, discussed both by researchers from academia and practitioners. Service performance is a complex concept that can be defined in several ways because it has to manage a large number of activities, in order to fulfill users' interests. Performance concept has undergone a notable development in the last decades since, because at the beginning the definitions assigned to performance made reference to financial indicators, but at the time, were taken into account non-financial indicators, which were proved to be indispensable for a good governance of the organization, but especially for public sector institutions which must show social accountability. Service performance is regarded differently in public sector institutions, because there are different management team, goals, needs and different costs. Increasing competitiveness of institutions, decreased funding from public and stakeholder pressure on public sector organizations have led management to a careful monitoring and regular of internal processes and results of the institution.

Defining performance in the context of public institutions cannot be dissociated from the process of measurement which can be defined as an activity of collecting, analyzing, reporting and use of information on inputs, outputs and outcomes of the public institution. Public accountability is demonstrated for internal and external users and is done using performance measurement process. Performance information is provided with the help of the financial and non-financial indicators, and identifying the most relevant indicators for each activity is an important step. Reporting service performance information is a component of public accountability, which demonstrates the effectiveness of the management, the way in which the resources were allocated and spent the public funds. Using service performance information helps to improve the processes and to set public institution goals'.

This research is positioned in the public sector in the area of public services, at the intersection of the following domains: control, accounting and management, in a niche less explored, namely service performance in the public sector.

This paper has the main objectives to propose a system of performance measurement and a model of reporting service performance information of higher education institutions. Considering the main objectives we drawn a number of operational objectives:
1. Identifying performance indicators used in practice for measuring service performance in higher education at national and international level;
2. Analyzing the way in which public accountability influences reporting on service performance information;

5

3. Determining the role of accounting in reporting service performance information;
4. Identifying the factors which influences reporting of performance information;
5. Analyzing how national and international institutions treats service performance reporting.

The thesis is distributed in three parts:

1. Service performance in the public sector – conceptual framework (first chapter);
2. Development of a system for measuring service performance based on the perception of university management (chapters 2, 3 and 4);
3. Development of a model for reporting service performance information in Romanian higher education (Chapter 5 and 6).

This paper ends with exposing the main conclusions drawn from scientific research conducted and are presented the main contributions brought to the state of knowledge for the field, and finally we drawn the boundaries of the research and future research perspectives.

In the first part, we delimited public sector from the private one in general, and then customized in terms of service performance. Then, the scientific approach was just based in the public sector where from the literature were studied and compared different methods of service performance measurement. Performance measurement and reporting utility was analyzed in light of the main categories of users of service performance information of the public institutions. The literature was used as a tool for delimiting the scope of knowledge, providing a traditional review of the articles.

In the second part, the research was focused on identifying answers to the question "How is perceived and measured performance in Romanian higher education?". This question was addressed at different levels, firstly, to identify the perception of the concept of performance in the context of public higher education. Secondly, the question has the purpose to determine the key indicators for measuring service performance in order to compose a performance measurement system. Service performance issues were custom for higher education in Romania, and through interviews we identified the main characteristics that define service performance and way in which is monitored the process. We also analyzed the types and the characteristics of universities in Romania, and also the role of Ministry of Education and Research (MENCS), National Council for Higher Education (CNFIS) and the Romanian Agency for Quality Assurance in Higher Education (ARACIS). The national organizations listed above are using performance indicators for different purposes: to rank higher education institutions and study programs (MENCS), for public funding (CNFIS) or for assessing the quality of higher education (ARACIS). Based on the interviews, the literature and the international rankings we have composed a list of indicators that defines a performant process of teaching, a research and an efficient interaction with the external environment. Starting from the university's mission, namely research, teaching and administration, we added funding as the fourth dimension of performance measurement. Then we compared the four dimensions, two by two, to determine the importance of each in the performance

measurement, and then we set the weight that each activity has in the performance measurement process.

In the third part, was discussed the need for public institutions to demonstrate public accountability to their "customers", but also to other users interested in the good governance of a public institution. The role of reporting financial information was analyzed to determine the main factors that influence the level of disclosures in annual reports. Subsequently, based on existing legislation at national and at the recommended practice guide at international level, issued the International Public Sector Accounting Standards Board (IPSASB), we outlined the general and particular needed to draw up an annual report to the needs of users. After comparing the two documents, we surprised the similarities and differences between them, so that we could demonstrate how Romanian higher education can adapt the model proposed by IPSASB, regarding reporting of service performance. Next, we selected the items to be included in the annual reports to composite an index or Disclosure Index (DI). Then we formulated the hypothesis, and reporting service performance information can be influenced by factors such: incomes per student, labor costs, size and reputation. In the last phase, we tested hypotheses and identified the main factors that influence the reporting of performance of higher education institutions in Romania. Based on these results, we proposed a model of reporting performance information on specific higher education institutions in Romania.

Figure 1. The content of scientific research
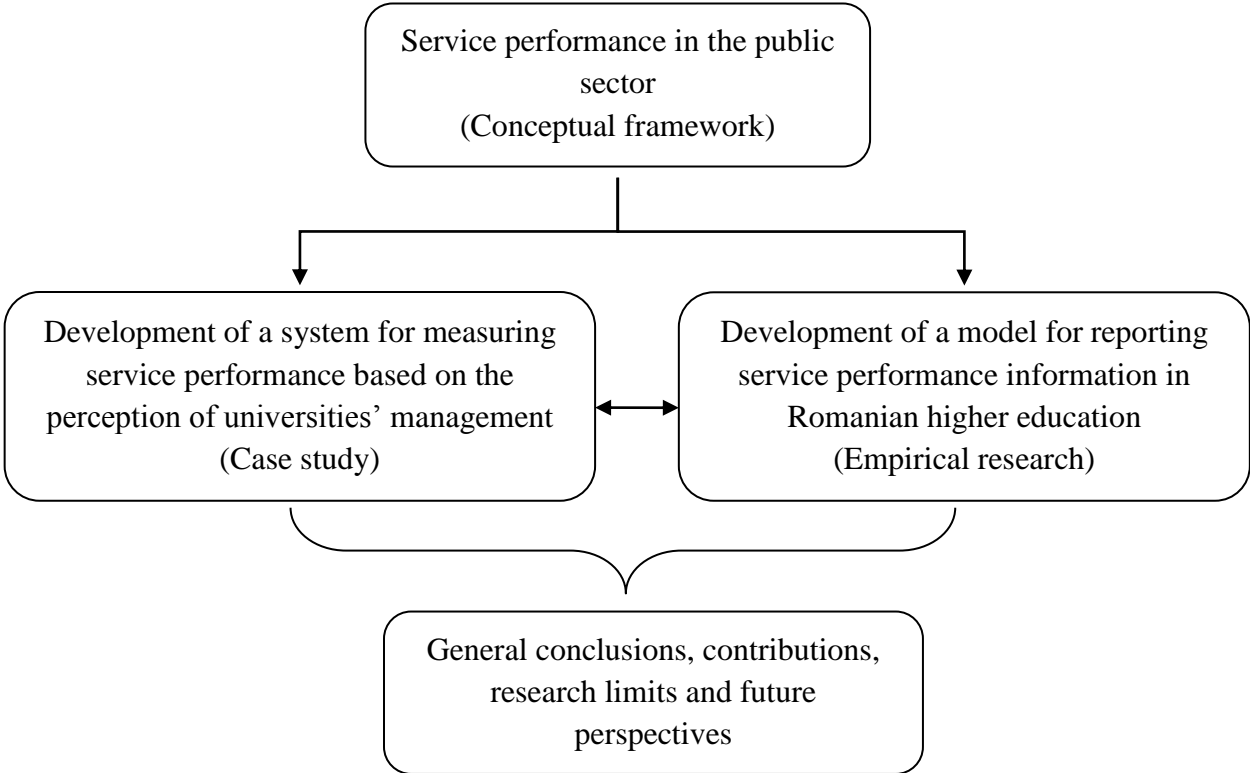
(*Source*: the author)

Importance and motivation of research

Education involves the transmission of social and cultural values from one generation to another phenomenon, being a specifically human phenomenon in which the society was developed with the main purpose of forming the man in terms of the intellectual and moral attributes. Education plays a key role in everyday life for the development of the society and the rationality of social life, so human condition to attain a higher status. The domain of the study is higher education. It includes institutions that form specialists in different sectors, where graduates are prepared to meet the requirements of the labor market.

This paper attempts to propose a system of performance measurement and a model of reporting service performance information on Romanian higher education institutions. The proposed performance measurement system is helping universities. The main function of the system is to determine to what extent the results can be classified as performing and what improvements could be made to the institution in order to excel each activities. Applying a uniform performance measurement system would have the effect of increasing competitiveness, as it would be analyzed institution position compared to others and motivate universities to set targets in order to achieve the direct competitors' performance or even to exceed them.

The model of reporting service performance information on universities was proposed because, on the one hand, higher education institutions must meet the needs of the direct and indirect users, and secondly to demonstrate public accountability. The National Education Law requires the presentation of an annual report which describes the university, but certain essential requirements to determine performance, were not included. The minimum categories of information to be presented were listed, leaving universities to appreciate the type and the way of presentation of results. Starting from the two premises, the model proposed for reporting complements the gaps from the national regulations and is recommended improvements for the reporting on service performance of higher education institutions.

The scientific approach is **motivated** primarily by the fact that the service performance must be placed in the context of social and economic climate, and secondly, the need to improve the tools for measuring the performance of higher education institutions in the public and, thirdly by the need to improve reporting service performance information on universities, so that results must be measured and reported accordingly, in order to reflect performance achieved.

The **importance of this scientific research** is based on and justified by the following arguments:

- Contribution to the development of the concept performance in higher education;
- Performs a case study, which analyzes the perception of the management of higher education institutions on the concept of performance, are identified performance indicators and is bounded the meaning of the concept "performance" and "quality" in the context of Romanian higher education;
- It proposes a system of service performance measurement, applicable to Romanian universities, being identified the most relevant financial and non-financial indicators;
- Studies the recommended practice guide for reporting on service performance information issued by IPSASB and highlights the evolution of the main elements;
- Comparative analysis between the recommended practice guide and the national regulations regarding the information required to be included in the annual report for showing universities' performance;
- Empirical research is performed in order to determine the factors that influence reporting on service performance information and then proposes a model of reporting for higher education institutions.

Once with the motivation and the importance of the research were presented the steps to be discussed further. Given the public sector needs and the specific attributes, and also given the principal characteristics of performance concept, we want that this work to contribute to the expansion of knowledge in the field and to be the starting point for future researches.

Methodology research

The research carried out has been divided into three parts and the research methodology used to achieve the main objectives and operational objectives was presented in detail within each chapter. In this section is presented only a general overview of the research methodology used in order to avoid repeating information.

The first part (chapter 1) was used a qualitative approach in order to synthesize the most relevant studies so as to bring to light the valences of the concept "performance" and the other concepts such as performance measurement, performance measurement indicators, performance management, information users, reporting service performance information.

In the second part (chapters 2, 3 and 4) we used qualitative research and the data collection methods are being diversified. Among the research methods used in this part we mention content analysis (chapters 2, 3 and 4) and case studies (chapter 4). As a collection data method used to achieve the main objective of this part we used interviews and questionnaire (chapter 4).

In the third part (chapters 5 and 6) qualitative research was combined with quantitative one. Chapter 5 presents an overview of the main features of public accountability and the role of reporting financial information. Also, in this part are identified the elements that influence reporting service performance information in the field of higher education institutions. Chapter 5 contains the main information requested by national regulations and the recommended practice guide issued by IPSASB. Content analysis was used because we compared the requirements regarding the reporting of service performance. In chapter 6 were identified based on empirical research, the factors that influence reporting service performance information in Romanian higher education environment. Content analysis was used because the annual reports published over a period of 4 years were analyzed in order to collect necessary data to compose a disclosure index.

Summary of PhD thesis' chapters

Chapter 1 entitled "Conceptual framework for service performance in the public sector" presents the main features of service performance resulted after analyzing the literature. To get an overview of service performance in the public we considered necessary to compare public and private institutions in terms of management, accounting, objectives, decisions making and staff motivation. Knowing the role of the entity and the existing systems behind service delivery processes are arguments that justify the need to differentiate the two sectors.

The existence of numerous researches in public sector service performance allowed us to make a traditional review of the literature in order to highlight the concept valences. In addition, the sample of articles was classified according to: resident authors, public sector domain, the subject studied, used theory, research methodology and used methods. Classification criteria on which we placed the articles, primarily, were selected because there are important studies that have used these criteria and secondly, the purpose of this division was to determine service performance related topics.

The themes drawn from the analysis of the sample of articles have been presented in the next subsections. In addition, the first part deals with adjacent themes to service performance, such as: service performance in the public and private sector, the methods for performance measurement, performance measurement indicators, users and reporting service performance information.

Chapter 2 "Performance in higher education - an international approach" meets the first operational objective of the thesis, namely: identification of indicators for measuring service performance used at international level. The chapter was divided into four sections. The first section presents research objective and methodology. In the second section were analyzed the missions of higher education institutions, considering to be a starting point in this scientific approach because it involves setting goals for performance measurement activities of the institution, and then to compare them with the objectives achieved. The third section presents

the valences of performance in higher education, and also treats the concept of service quality. Both concepts are defining the property of a service, but the quality is a subjective issue and performance is an objective one. Service quality is an elusive concept that, traditionally, is associated with the notion of meeting the needs of the final beneficiary, while service performance is defined based on a set of dimensions that gives citizens (or customers) information on how public sector institutions appreciate and give value for money using: efficiency, effectiveness, economy and equity. The fourth chapter presents performance indicators found in the literature on which researchers have developed different complex research to demonstrate their usefulness in the process of performance measurement. Also, in a succinct way, we presented a variety of classifications recognized internationally and mentioned in the literature as the most representative (ARWU, THE, QS). In order to validate the performance of Romanian universities we have taken U-Multirank into account because it is a European ranking, and first of all, Romanian education system must be certified at European level and then be reported to international classifications.

Chapter 3 "Measuring service performance of higher education institutions in Romania" completes first operational objective because it presents the perspective of the performance indicators used nationally. The first section describes the objective and the methodology followed in the chapter. The second section characterizes the education system in Romania, and particularly the higher education system. In the third section were presented the performance indicators used with various purposes by the most important regulation bodies in the higher education system. Thus, performance measurement uses specific indicators to differentiate and compare universities either in terms of study programs or the whole university (MENCS), either for main and additional grant funding (CNFIS) or to the accreditation process and quality assurance (ARACIS). By studying the documents published by higher education institutions, I noted the management contracts, which in addition to the strategy adopted by the university, contain the performance indicators tracked.

Chapter 4 "Development of a system for measuring service performance based on the perception of university management" proposes a model of service performance measurement for Romanian higher education institutions and the first main objective of this research is achieved in this chapter. Understanding the mechanism of the performance measurement and the determination of the organization's mission, in this case of higher education institutions, is the starting point in achieving the objective. Performance measurement process in higher education institutions involves the establishing the strategy of the university and its perpetuation at all hierarchical levels, so as the academic community to be able to plan the steps for achieving the objectives. Depending on the missions of higher education institutions must be identified specific measurement indicators in order to capture the achieved performance for each activity. Increasing competitiveness, financial constraints and the emergence of international rankings are the factors that influenced the performance measurement process and determined the management of the institutions to step up efforts to monitor the results. Some universities have confirmed the influence of international rankings outlining the objectives in accordance with international practices, so the performance measurement indicators from the ranking systems were analyzed. The knowledge of the

Romanian higher education system has become an important topic in this thesis because in achieving the purpose settles at the beginning requires an important knowledge of the context and the existing practices in this area. By the interviews conducted at different levels, such as university, faculty and department, it has been defined and framed the term of performance in Romanian context, was analyzed the distinction between the concept of "performance" and "evaluation", but were identified performance indicators used by the management. Based on universities' management perception it was built and proposed a model of services performance measurement offered by Romanian higher education institutions.

Chapter 5 "Contribution of reporting information to increase the accountability of the public institutions" is divided into several sections dealing with two major issues (1) public accountability and (2) reporting service performance information at international and national level. Sections two and three touches the second and third operational objective because it captures the main features of public accountability, accounting, and identifies the elements that influence the reporting service performance information in the field of education. From the literature were identified the main elements that can influence the reporting of information and they are: the size (measured both by number of students and by total assets), the leverage, the financial resources per student, the complexity (determined by the number of faculties), the category or the age of the university. In the fifth section it was analyzed the evolution of the elements included in the recommended practice guide issued by IPSASB, and the changes that have occurred over time, thus fulfilling the fourth operational objective. The sixth section presents existing national regulations on reporting service performance information. In the last chapter, the attention was directed to the common elements between the two, and the differences, because we wanted to identify the extent to which the national regulations are in line with international practices recommended.

Chapter 6 "Empirical research: Reporting service performance information in Romanian higher education" aims mainly to determine the elements that influence the disclosure of service performance from Romanian universities. To determine the influences on disclosure index of performance information of Romanian public universities were formulated four hypotheses, which are tested with a hierarchical linear model where the dependent variable (DI) was presented and explained by the factorial variables. The dependent variable was composed of 46 indicators that were classified into four categories: teaching, research, external environment and financing. Universities' annual reports published on the website were analyzed for four years in order to note the appearance of information that refers to the followed indicators. The sample of Romanian public universities included in the empirical study consisted of 21 universities. To determine the level of reporting service performance information of Romanian higher education institutions we have used the following factorial variables: financial resources per student, universities size and category. A special element or the new element of this study was the factorial variable "labor costs".

Hypothesis 1: Reporting service performance information depends on financial resources per student: has been not validated in any model. The results are contrary to our expectations, but we can say that in Romania, reporting service performance information is not influenced by

financial resources per student. Most often the hypothesis 2 was validated, but contrary to our expectations, in the third level, when the variable "universities category " was introduced, it has been shown that reporting service performance information is not influenced by labor costs. Instead, the change in the disclosure index about the performance of research and funding are influenced by labor costs. The third hypothesis was validated only in a single model. Thus, reporting service performance information on research is influenced by the universities' size. In other models, the hypothesis was not confirmed. Hypothesis 4 has been validated in all five cases, thus the universities' category is an important factor in determining the level of disclosure and which influences reporting service performance variation.

The second main objective of the thesis was fulfilled and discussed in chapter six. The reporting service performance information model was proposed for Romanian universities, and higher education institutions must present the following information in annual reports: objectives, performance indicators (customize for teaching, research, external environment, financing) and the costs of higher education institutions.

General conclusions, contributions, limitations and research perspectives

General conclusions

Service performance in the public sector is a topic that has been, is and always will be developed, both nationally and internationally. The literature is increasingly rich in significant and important researches on performance (van Helden, 2005; Goddard, 2010). Most researchers who have studied service performance are resident in the UK, but it was noted the growing interest of research conducted by authors resident in the Netherlands.

The most studied area of the public sector remains public administration, as demonstrated by Goddard (2010) and the most studied topic on service performance was represented by its measurement using performance indicators. Regarding the research method used, case studies are used in many articles and as data collection method the interviews were preferred.

Service performance is a concept that can be identified using two methods (3E and IOO) defined in the literature based on several specific indicators. Besides the two methods, performance received different valences, because the users or stakeholders have different needs. Equity is a new term to which some researchers have referred when talking about public services. Equity is a principle where all citizens have access to public services and have equal rights.

In the public sector, service performance measurement is not an easily activity to achieve, while in the private sector, the profit is used as an indicator that shows the entities' performance, indicators which is not known within the public sector. Performance measurement in public institutions is necessary to demonstrate its accountability to internal and external users. Also, service performance measurement helps public sector institutions to

improve accountability, professionalism and transparency. Setting goals is important in the public sector and for this process; performance measurement is an essential step. In order to achieve the objectives is necessary to develop a plan that includes the needed procedures to fulfill the goals. To get better results, resources allocation represents an essential step, and in order to achieve this, performance measurement plays a crucial role.

Performance management is a concept that differs from performance measurement. Once performance has been measured, the information resulting from this process should be reported because decisions have to be taken based on the mission and the strategy pursued by the institution, but also on financial and non-financial information. Following these steps leads to the concept of performance management. From the literature review, we can conclude that at international level there are a number of studies that attempts to measure performance using indicators and performance measurement models. As shown by this research, the most common performance measurement model is BSC. BSC implementation in the public sector has been a challenge for many institutions and in this way were highlighted the advantages and disadvantages of the method. Over time, many models have been developed which were constructed on previous disadvantages measurement method.

Service performance has been studied in public and private sectors. The public sector is increasingly interested in applying private sector techniques and the proof is the application of accrual accounting. Another example is the use of BSC method by public institutions. Private management uses performance information more rationally, while in the public sector this process is more symbolic. The activities are more complex in the public sector, as serving the interests of multiple users, whereas in the private sector, the focus is on financial and shareholder orientation.

Performance measurement is a multidimensional concept that shows the way in which an organization is working. Financial and non-financial indicators are used by public sector institutions. Public institutions must provide relevant information to users In order to facilitate the decision-making process and comparison between the institutions. The number of indicators used to measure performance should not be many, but they should be selected carefully to capture the most important information. Also, the indicators should show a clear view of institutions' performance, using the same indicators for each year. The comparability of the results is the key element for having a total efficiency of performance measurement.

Users' diversity makes the reporting service performance information in the public sector to be a complex process. The institution must provide clarification on their activities, decisions and results achieved so as to be satisfied information needs of all users. They are interested in the performance of the public institution because they are affected by the activities undertake. Choosing a performing institution (e.g. a university) is based on the provided information.

Reporting service performance information is an important element for many reasons. One is related to setting goals of public institution. The second reason is given by the interest that users have on performance information. The third argument regards the service improvement

that can be made using performance measurement information and which can be used in making decisions process.

Universities must provide an adequate response to the new challenges in order to face the changes in the environment in which they are operating and the quality of services must be adapted to current circumstances. Each university sets its goals according to the external environment, so it is intended to achieve the best results in terms of teaching and research, which will lead the university to performance.

One of the universities' goals is to put into practice the theories studied and discussed during the teaching process. In this way, universities contribute and help students to develop the knowledge and then to apply them.

In higher education, performance is defined as achieving objectives and performance indicators helps to improve the processes and to ensure transparency in the use of resources. Quality is a subjective concept that is included in performance and is seen by higher education institutions as a minimum requirement to fulfill certain standards.

Performance indicators followed by educational institutions in Romania are related to those followed in other states, including employability, the number of students, the number of graduates, research, the relation with private sector, internationalization, the number of projects and funding. The private sector is an important pawn at least for two reasons. On the one hand, partnerships of higher education institutions with private entities provide information about the teaching process, which leads to the presumption that universities' graduates are prepared in accordance with the requirements envisaged by employers. On the other hand, partnerships can bring funding for research. Convincing private entities to be actively involved in different activities developed by higher education institutions is a difficult process, and the number of university's partnerships with private sector entities is an indicator which shows the success of both the research and the teaching process.

The number and quality of the partnerships with the private sector and other institutions from higher education are indicators that demonstrate the performance the universities. The quality of the relation between the institutions shows service performance of the university because the partnerships highlight the gained reputation. Participation of university members to develop strategies and public policies is needed to achieve performance.

The most relevant indicator and followed at the level of university is graduates' employability. If in economic faculties this indicator is important there are no statistics on their number. In contrast to other universities, such as the police academy, the indicator achieves 100%, which leads to the conclusion that it is not relevant to any university. Each higher education institution applies a questionnaire, one year after the graduation, requesting the graduates to give information about the labor market insertion and then employability is no longer pursued. This highlights a weakness of how universities are tracking the insertion of the graduates in the labor market.

The three main actors that are interested in performance of Romanian higher education institutions, for different reasons. For example, MENCS is interested in performance because it organizes and leads the national education system. On the other hand, CNFIS is following performance in order to allocate the principal funds and then additional funds to higher education institutions. ARACIS ensures quality assessment of study programs offered by universities, but also the quality of teaching, research and the relation with external environment.

Quality can mean many things and represents the instrument by which performance can be achieved. The existence of international rankings and performance indicators used to attest that a university provides the highest quality, led higher education institutions to establish the objectives in accordance to those pursued by international rankings. Fulfilling the objectives brings the advantage of student attraction and funding, and the university gains a good reputation for students' preparation.

Performance measurement system proposed for Romanian higher education includes teaching which influence the performance of a university in a proportion of 38% and the research influences in proportion of 39%. The interaction with the external environment is important when measuring performance in proportion of 14% and financing with 9%.

The most important indicators that reflect the performance of the teaching process are: reputation of the university in teaching, integration of graduates into the labor market, the number of the students at bachelor, master and doctoral programs, evaluation of teachers, the number of graduates from the all three levels and the ratio between the teachers and the university's performance. To define a performance research are monitored the following indicators: reputation of the university in research, the ratio between the number of publications and teaching staff, the number of publications, number of articles in different journals indexed in international databases and the number of publications in collaboration with foreign authors. A performance interaction with external environment can be measured with the help of the following indicators: the number of study programs at bachelor and master level in other languages, the number of partnerships with other universities and private sector entities, the number of foreign teachers, the number of students in mobility and the number of spin-offs and start-ups. Financial performance is vital for Romanian universities and for this activity are monitoring the next indicators: financial resources obtained from public funds, the ratio between the financial resources obtained and the total number of teachers resources obtained from the private sector, the ratio between the financial resources attracted for research and the number of teachers and the last, but not the least, the resources attracted from professional development.

As a conclusion from the case study, it can be said that Romanian higher education is intended to improve performance and uses relevant performance indicators for each activity in order to show their performance. The research conducted in different countries and international rankings present performance indicators which defines a qualitative teaching process, high quality in research and a better service delivery to the community.

Reporting service performance information established by the National Education Law no. 1/2011 presents the main categories of information as the recommended practice guide issued by the International Public Sector Accounting Standards Board require, but an essential element has to be introduced in the new report. The objectives for each year must be presented in the report to make comparisons between the proposed and achieved results.

The disclosure of service performance information in annual reports of Romanian universities was determined using a disclosure index. After analyzing 21 public universities for a period of 4 years, we can say that the level of reporting is characterized at an average level, information being presented in proportion of 54% of the total of 46 indicators established to be important. For each dimension, the highest percentage of reporting was recorded for financing activities (71%), followed by teaching (60%). On an average were presented research performance information (49%) and the relationship with the external environment (42%).

Contributions

The knowledge stage for service performance in the public sector in general and for higher education in particular, has been improved, bringing new theoretical and practical contributions in the area.

The thesis has started from the identification of the main elements that characterize public sector and it was highlighted by comparison with the private sector. The literature was studied in order to capture the differences between the two sectors, taking into account several criteria in the field such as: management, leadership, decision-making process, motivation, accounting, budgeting and the main objectives of the institutions from the two sectors. The research has continued with a literature review. First, was made a classification by different criteria of the sample articles found in various databases and the contribution brought, compared to previous studies, is the introduction of a new criteria for the classification of the articles (studied subject), extension of the period (2000-2016) and the number of specific international journals have been extended. Secondly, the present research improved the state of knowledge on themes drawn from reading the articles included in the sample analysis: service performance, performance measurement, performance measurement indicators, users and reporting service performance. The contribution to conceptual level regards the clarification of the term "service performance in the public sector" by presenting the key elements that help to define and differentiate it from the concept of "evaluation". Service performance has been studied both in the public and private sector, in order to show the direction of the concept. In this way, we made a new contribution to the state of knowledge. We also found a lack of literature dealing with the topic of performance management and measurement. Indeed, there are many researches that discuss the two topics, which are analyzed separately, but few were those which made a comparison or a connection between them. Therefore, the own contribution is reflected in clarification of the state of knowledge and was determined the link between performance measurement and management.

In chapter 2, the research brings a contribution to the literature on the topic of the missions of higher education institutions and for the terms "performance" and "quality" of the services, highlighting the similarities and differences between the two concepts. Also, the literature contributions were made to the concept of "performance indicators". In the context of higher education, the competition between higher education institutions has been emphasized by the international rankings, which have gained popularity. International rankings have the ability to establish objectively the criteria for measuring and controlling higher education institutions because of the desire to obtain performance, universities have defined the objectives in accordance with the indicators used by international rankings. Based on the literature and international rankings, we formed a list of indicators that show the performance of higher education institutions for the main activities: teaching, research and the relationship with the external environment. Specific performance indicators for each dimension were examined, being made a new contribution to the literature, namely combining the indicators used in the theoretical and practical (international classifications).

If previously performance indicators used internationally were studied, chapter 3 is dedicated to Romanian higher education environment. First, based on data provided by INS, we characterized the academic environment in terms of the number of higher education institutions, the evolution of the number of students enrolled in undergraduate and the resident population aged 19-24 years and also the number of foreign students enrolled in an educational institution in Romania. Secondly, in the national context, the main actors were identified using performance indicators.

The development of a service performance measurement system based on the perception of universities' management is one of the main objectives of this research. Chapter 4 contains the results of the interviews conducted in four higher education institutions from Romania, obtaining various opinions from the university level, the faculty and the department on the concepts of "performance" and "quality" of services, on which we outlined the main similarities and differences between the two, and identified key performance indicators used by higher education institutions to measure performance. After the interviews, a list of performance indicators was composed based on the literature and international rankings, which was corroborated with the results of the interviews, thus forming a questionnaire which was distributed management of universities in order to identify the most important performance indicators in four areas: teaching, research, the relationship with the external environment and financing. The dimensions mentioned above, using the model proposed by Saaty (2008), were compared in two by two by the management of higher education institutions, so that we get a weight of each dimension in universities' performance. The added value of this chapter is to compose a system of service performance measurement for Romanian higher education institutions based on the perceptions of the leadership.

To achieve the second research objective, a review of literature was necessary for finding the most important elements for reporting service performance information of higher education institutions required by national and international professional organizations. First, in chapter 5, we provided a contribution to the literature on the topic of public accountability and which

is the role played by reporting financial information and which are the main elements that influence reporting service performance. Secondly, after a depth analyzing of the three documents (CP, ED and RPG) developed by IPSASB that are dealing with reporting service performance information, the research presents the evolution of the main items that are closely related to this issue. In this way, we contributed to the development of the literature, because we discussed the steps taken by IPSASB in developing the recommended practice guide. Then, from international level we moved nationally, studying the National Education Law, which provides the minimum information requested to be included in annual reports. The purpose of the analysis, primarily, was to identify the elements needed to draw up an annual report that meets users' needs and, secondly, determining the similarities and the differences between the recommended practice guide and the national regulations. The comparison between the two documents is a contribution to the literature, and the conclusion drawn from the analysis is that the Romanian universities can adapt the model proposed by IPSASB for reporting service performance information.

At the level of empirical research (chapter 6) was achieved the second objective of this research, namely proposing a model of reporting service performance information for Romanian higher education. The contribution of this analysis, besides the proposal of reporting model is to identify the elements that influence reporting service performance information in Romanian context, by analyzing the annual reports of the public universities, for the period 2012 -2015. To our knowledge, reporting service performance information of Romanian universities has not been studied yet, for which this work makes a significant contribution to improve reporting. Also, the factorial variables included in the empirical study are financial resources, the size of the university and the category of the university, elements found in other studies from the literature and the novelty of this study is the introduction of the labor costs as a factorial variable and we tested the influence on reporting service performance information.

The dependent variable used in this research is disclosure index (DI), where the appearance of the information was noted after the model proposed by Cooke (1989). In building the DI were selected 46 performance indicators based on the following arguments:

- Used in previous studies;
- Required by the National Education Law;
- Included by IPSASB in recommended practice guide;
- Included in the world's major rankings;
- Tested their importance in four universities from Romania through interviews.

Thus, the list of the most relevant indicators for teaching, research, relationship with the external environment and financing was composed based on existing practices at national and international level. The list of the indicators constitutes an own contribution to the knowledge and it can be considered by the educational institutions from Romania and regulatory bodies of the education system such as MENCS, CNFIS or ARACIS.

In order to determine the factorial variables which influence the presentation of service performance information in Romanian public universities were verified the assumptions made based on a hierarchical linear model where the dependent variable (DI) is expressed in terms of the factorial variables. This regression is often used in researches from the field of sociology and psychology, but less used in economic sciences. This led us to use the regression in this research because, besides the advantage of highlighting gradually influences model, we improved the literature.

Service performance of public sector institutions represented the starting point of this research, determining the specific indicators that demonstrate performance and the importance of reporting information. Thus, through this research, we developed a system for measuring service performance in Romanian higher education and proposed a model of reporting service performance information, representing the main objectives of the research.

Research limits

The main limitations of the research, inevitable for any scientific approach, are:

- Researcher's subjectivism for the way in which the sample of reviewed literature was chosen and the possibility of including some articles wrongly in certain categories of analysis;
- The case study took into account the perceptions of top and middle management in Romanian universities of four public universities, classified as those offering advanced research and education, and interviews were made with their leadership. The number of universities included in the case study (4) compared to the total public universities in Romania (56) is small.
- The empirical study included only public universities distributed by MENCS as higher education institutions offering study programs in the field of economics. HEIs sample analyzed in this study was composed of 21 public universities.
- The factors selected to demonstrate the influence on reporting service performance information included financial and non-financial indicators, but their number can be expanded.

Research perspectives

Future research perspectives are closely related to research limits given above and for education field, specifically for higher education, new researches can be developed, so as to be reduced the limits of the research, namely:

- The proposed performance measurement is based on the perceptions of top management and middle management in Romanian universities of four prestigious public universities, but the model could be improved by including more universities;
- Testing the proposed model by measuring performance and comparing the results with those obtained by the university;

- Inclusion in the empirical study of all public universities from Romania, in order to determine the elements that influence reporting of service performance;
- Development of a list of potential factors that could influence reporting service performance information in Romanian higher education.

Bibliography

Abbott, M., & Doucouliagos, C. (2003). The efficiency of Australian universities: a data envelopment analysis. Economics of Education review, 22(1), 89-97.

Abdel-Maksoud, A., Elbanna, S., Mahama, H., & Pollanen, R. (2015). The use of performance information in strategic decision making in public organizations. *International Journal of Public Sector Management*, *28*(7), 528-549.

Abdelsalam, O. H., Bryant, S. M., & Street, D. L. (2007). An examination of the comprehensiveness of corporate internet reporting provided by London-listed companies. *Journal of International Accounting Research*, *6*(2), 1-33.

Accounting Standards Board (ASB), 1999. Statement of Principles for Financial Reporting. ASB, London.

Andersen, J. A. (2010). Public versus private managers: How public and private managers differ in leadership behavior. *Public Administration Review*, *70*(1), 131-141.

Andrews, R., Boyne, G. A., & Walker, R. M. (2011). Dimensions of publicness and organizational performance: A review of the evidence. *Journal of Public Administration Research and Theory*, *21*(suppl 3), i301-i319.

Ariza, T., Blasco, R. Q., Sánchez, M. T. R., & Sánchez, M. P. B. (2013). Satisfaction of Health Science teachers with the convergence process of the European Higher Education Area. *International Journal of Clinical and Health Psychology*, *13*(3), 197-206.

Arnaboldi, M., and Azzone, G., (2010), Constructing performance measurement in the public sector, Critical Perspectives on Accounting 21; 266–282;

Askim, J. (2007). How do politicians use performance information? An analysis of the Norwegian local government experience. *International Review of Administrative Sciences*, *73*(3), 453-472.

Athanassopoulos, A. D., & Iliakopoulos, A. (2003). Modelling customer satisfaction in telecommunications: assessing the effects of multiple transaction points on the perceived overall performance of the provider. Production and Operations Management, 12(2), 224-245;

Atkinson, P. M., & Tatnall, A. R. L. (1997). Introduction neural networks in remote sensing. International Journal of remote sensing, 18(4), 699-709;

Backer, C. R., & Bettner, M. S. (1997). Interpretative and critical research in accounting: a commentary on its absence from mainstream accounting. *Critic Perspect Acc*, *8*, 293-310.

Bai, Z., Pan, G., & Yin, Y. (2016). Homoscedasticity tests for both low and high-dimensional fixed design regressions. *arXiv preprint arXiv:1603.03830*.

Baker, R., & Morina, D. R. (2006), ―Forces leading to the adoption of accrual accounting by the canadian federal government: An institutional perspective‖, Canadian Accounting Perspectives, Vol. 5 No. 1, pp. 83-112.

Baldwin, G., & James, R. (2000). The market in Australian higher education and the concept of student as an informed consumer. *Journal of Higher Education Policy and Management*, *22*(2), 139-148.

Balkin, R. S., Gosnell, K. M. R., Holmgren, A., & Osborne, J. W. (2016). Nonlinear Analysis in Counseling Research. *Measurement and Evaluation in Counseling and Development*, 0748175616664015.

Banca Mondială, 2004. World Development Report 2003. Oxford University Press: New York.

Banks, W., & Nelson, M. (1994). Financial disclosures by Ontario universities: 1988–1993. *Journal of International Accounting, Auditing and Taxation*, *3*(2), 287-305.

Barr, A. S. (1940). Measurement of teaching ability. Review of Educational Research, 182-184;

Barreto, I., & Baden-Fuller, C. (2006). To Conform or To Perform? Mimetic Behaviour, Legitimacy-Based Groups and Performance Consequences*. Journal of Management Studies, 43(7), 1559-1581.

Behn, R. D. (2003). Why measure performance? Different purposes require different measures. Public administration review, 63(5), 586-606;

Berman, E. (2002). How useful is performance measurement. Public Performance & Management Review, 348-351.

Boland, T., & Fowler, A. (2000). A systems perspective of performance management in public sector organisations. *International Journal of Public Sector Management*, *13*(5), 417-446;

Borst, R., Lako, C., & de Vries, M. (2014). Is Performance Measurement Applicable in the Public Sector? A Comparative Study of Attitudes among Dutch Officials. International Journal of Public Administration, 37(13), 922-931.

Bourne, M., & Wilcox, M. (1998). Translating strategy into action. Manufacturing Engineer, 77(3), 109–112.

Boyne, G. (2002). Public and private management: what's the difference?. *Journal of management studies*, *39*, 97-122.

Boyne, G. A., & Walker, R. M. (2010). Strategic management and public service performance: The way ahead. *Public Administration Review*, *70*(s1), s185-s192.

Brignall, S., & Modell, S. (2000). An institutional perspective on performance measurement and management in the 'new public sector'. Management Accounting Research, 11(3), 281-306;

Bringer, J. D., Johnston, L. H., & Brackenridge, C. H. (2004). Maximizing transparency in a doctoral thesis1: The complexities of writing about the use of QSR* NVIVO within a grounded theory study. *Qualitative research*, *4*(2), 247-265.

Broadbent, J., & Guthrie, J. (1992). Changes in the public sector: A review of recent "alternative" accounting research. *Accounting, Auditing & Accountability Journal*, *5*(2).

Broadbent, J., & Guthrie, J. (2008). Public sector to public services: 20 years of "contextual" accounting research. Accounting, Auditing & Accountability Journal, 21(2), 129-169.

Brown, R. M., & Mazzarol, T. W. (2009). The importance of institutional image to student satisfaction and loyalty within higher education. *Higher Education*, *58*(1), 81-95.

Brun, M. E., & Philipp Siegel, J. (2006). What does appropriate performance reporting for political decision makers require? Empirical evidence from Switzerland. *International Journal of Productivity and Performance Management*, *55*(6), 480-497.

Brunsson, N. (1994). Politicization and 'company-ization' – On institutional affiliation and confusion in the organizational world. Management Accounting Research, 5/3/4, pp. 323.335;

Brusca, I., & Montesinos, V. (2013). From Rhetoric to Practice: The Case of Spanish Local Government Reforms. Financial Accountability & Management, 29(4), 354-377.

Buschor, E. (2013). Performance Management in the public sector: Past, current and future trends. Tékhne, 11(1), 4-9.

Carter, N. (1991). Learning to measure performance: the use of indicators in organizations. Public Administration, 69(1), 85-101.

Chalmers, D. (2008). Defining quality indicators in the context of quality models.

Chan, J. L. (2008). International public sector accounting standards: conceptual and institutional issues. In IPSAS'Workshop at the University of Napoli Parthenope, available at http://www. jameslchan. com/papers/Chan2008IPSAS3. pdf (accessed on 15 May 2013);

Chan, V. (2015). Implications of key performance indicator issues in Ontario universities explored. *Journal of Higher Education Policy and Management*, (ahead-of-print), 1-11.

Charlebois, S., & Hielm, S. (2014). Empowering the regulators in the development of national performance measurements in food safety. British Food Journal, 116(2), 317-336.

Chawla, D., & Joshi, H. (2010). Knowledge management initiatives in Indian public and private sector organizations. Journal of Knowledge Management, 14(6), 811-827.

Chen, S. H., Yang, C. C., Shiau, J. Y., & Wang, H. H. (2006). The development of an employee satisfaction model for higher education. *the TQM Magazine*, *18*(5), 484-500.

Comm, C. L., & Mathaisel, D. F. (2003). A case study of the implications of faculty workload and compensation for improving academic quality. *International Journal of Educational Management*, *17*(5), 200-210.

Connolly, C., & Hyndman, N. (2004). Performance reporting: a comparative study of British and Irish charities. *The British Accounting Review*, *36*(2), 127-154.

Consultation Paper (2011). Reporting Service Performance Information, International Public Sector Accounting Standards Board;

Cornuel, E. (2005). The role of business schools in society. *Journal of Management Development*, *24*(9), 819-829.

Coste, A. I., & Tudor, A. T. (2013). Service performance-between measurement and information in the public sector. Procedia-Social and Behavioral Sciences, 92, 215-219.

Coy, D., & Pratt, M. (1998). An insight into accountability and politics in universities: a case study. *Accounting, Auditing & Accountability Journal*, *11*(5), 540-561.

Coy, D., Fischer, M., & Gordon, T. (2001). Public accountability: a new paradigm for college and university annual reports. *Critical Perspectives on Accounting*, *12*(1), 1-31.

Crețan, G. C., & Gherghina, R. (2015). Funding Higher Education in a few EU Countries: Implications for Competition and Competitiveness in Higher Education. *Journal of Knowledge Management, Economics and Information Technology*, *5*(1), 1-22.

Curaj, A., Deca, L., & Hâj, C. M. (2015). Romanian Higher Education in 2009–2013. The Bologna Process and Romanian Priorities in the Search for an Active European and Global Presence. In *Higher Education Reforms in Romania* (pp. 1-24). Springer International Publishing;

Cutler, T. (2010). Performance management in public services 'before'New Public   Management: The case of NHS acute hospitals 1948-1962. *Public Policy and Administration*, 0952076710375785.

Deca, L. (2015). International norms in the reform of Romanian higher education: a discursive analysis. *European Journal of Higher Education*, *5*(1), 34-48.

DeShields Jr, O. W., Kara, A., & Kaynak, E. (2005). Determinants of business student satisfaction and retention in higher education: applying Herzberg's two-factor theory. *International journal of educational management*, *19*(2), 128-139.

Díaz-Méndez, M., & Gummesson, E. (2012). Value co-creation and university teaching quality: Consequences for the European Higher Education Area (EHEA). *Journal of Service Management*, *23*(4), 571-592.

Dicţionarul Explicativ al Limbii Române (1996), Ediţia a II-a, Editura Univers Enciclopedic, Bucureşti;

DiMaggio, P., & Powell, W. (1991). The Iron Cahe Revisited-Institutional Isomorphism and Collective Rationality. The new institutionalism in organizational analysis, 63-82

Dormer, R., & Gill, D. (2010). Managing for performance in New Zealand's public service-a loosely coupled framework?. *Measuring Business Excellence*, *14*(1), 43-59.

Douglas, J., Douglas, A., & Barnes, B. (2006). Measuring student satisfaction at a UK university. Quality assurance in education, 14(3), 251-267.

Eccles, R. G., (1991) The performance measurement manifesto. Harvard Business Review, 131–137;

Edmiston, S. C. (2010). Secrets Worth Keeping: Toward a Principled Basis for Stigmatized Property Disclosure Statutes. *UCLA L. Rev.*, *58*, 281.

Edwards, P., Ezzamel, M., & Robson, K. (1999). Connecting accounting and education in the UK: discourses and rationalities of education reform. *Critical Perspectives on Accounting*, *10*(4), 469-500.

Etzkowitz, H. (1998). The norms of entrepreneurial science: cognitive effects of the new university–industry linkages. *Research policy*, *27*(8), 823-833.

EUA (2011). Global University Rankings and Their Impact.

European System Accounts (ESA), 2010;

Exposure Draft 54 (2013). Reporting Service Performance Information, International Public Sector Accounting Standards Board;

Fallis, G. (2005). The Mission of the University. Professional File. Number 26. *Canadian Society for the Study of Higher Education*.

Fekete, S., Matis, D., & Lukács, J. (2008). Factors influencing the extent of corporate compliance with IFRS-The Case of Hungarian listed companies. *Available at SSRN 1295722*.

Fenske, R. H. (1980). Setting institutional goals and objectives. *Improving academic management*, 177-199.

Fitzgerald, L., Johnston, R., Brignall, T.J., Silvestro, R., and Voss, C. (1991). Performance Measurement in Service Businesses. The Chartered Institute of Management Accountants, London;

FMI, 2002. The role of capacity building in poverty reduction. An IMF Issues Brief, retrieved from http://www.imf.org/external/np/exr/ib/2002/031402.htm

Franco-Santos, M., Rivera, P., & Bourne, M. (2013). *Performance Management in UK Higher Education Institutions: The Need for a Hybrid Approach: Summary Report*. Leadership Foundation for Higher Education.

Funnell, W. & Cooper, K. (1998). Public sector accounting and accountability in Australia. UNSW Press;

Gallego, I., García, I. M., & Rodríguez, L. (2010). Universities' websites: Disclosure practices and the revelation of financial information, *The International Journal of Digital Accounting Research, 9, 153-192.*

Geven, K., & Maricuţ, A. (2015). A Merry-Go-Round of Evaluations Moving from Administrative Burden to Reflection on Education and Research in Romania. In *The European Higher Education Area* (pp. 665-684). Springer International Publishing.

Glaum, M., Schmidt, P., Street, D. L., & Vogel, S. (2013). Compliance with IFRS 3-and IAS 36-required disclosures across 17 European countries: company-and country-level determinants. *Accounting and business research*, *43*(3), 163-204.

Goddard, A. (2010). Contemporary public sector accounting research–An international comparison of journal papers. *The British Accounting Review*, *42*(2), 75-87.

Goh, S. C., (2012) Making performance measurement systems more effective in public sector organizations", Measuring Business Excellence, 16(1), 31 – 42;

Gordon, T. P., & Fischer, M. (2008). Communicating performance: the extent and effectiveness of performance reporting by US colleges and universities. *Journal of Public Budgeting, Accounting & Financial Management*, *20*(2), 217.

Gordon, T., Fischer, M., Malone, D., & Tower, G. (2002). A comparative empirical examination of extent of disclosure by private and public colleges and universities in the United States. *Journal of Accounting and Public Policy*, *21*(3), 235-275.

Gray, A., & Hood, C., (2007). Public management by numbers. Public Money & Management, 27(2), 89-89;

Green, D. (1994). What is quality in higher education?, *Society for Research into Higher Education& Open University Press.*

Gregory, R., & Lonti, Z. (2008). Chasing shadows? Performance measurement of policy advice in New Zealand government departments. Public Administration, 86(3), 837-856.

Gruening, G. (2001). Origin and theoretical basis of New Public Management. International public management journal, 4(1), 1-25.

Guthrie, J., & Neumann, R. (2007). Economic and non-financial performance indicators in universities: the establishment of a performance-driven system for Australian higher education. *Public Management Review*, *9*(2), 231-252.

Guthrie, J., Olson, O., & Humphrey, C. (1999), ―Debating developments in new public financial management: The limits of global theorising and some new ways forward‖, Financial Accountability & Management, Vol. 15 No. 3, pp. 209-28.

Haakstad, J. (2001). Accreditation: the new quality assurance formula? Some reflections as Norway is about to reform its quality assurance system. *Quality in Higher Education*, *7*(1), 77-82.

Habersam, M., Piber, M., & Skoog, M. (2013). Knowledge balance sheets in Austrian universities: The implementation, use, and re-shaping of measurement and management practices. *Critical Perspectives on Accounting*, *24*(4), 319-337.

Halachmi, A. (2002). Performance measurement, accountability, and improved performance. *Public Performance & Management Review*, 370-374;

Harley, S., Muller-Camen, M., & Collin, A. (2004). From academic communities to managed organisations: The implications for academic careers in UK and German universities. *Journal of Vocational Behavior*, *64*(2), 329-345;

Harvey, L., & Green, D. (1993). Defining quality. *Assessment & evaluation in higher education*, *18*(1), 9-34;

Hazelkorn, E. (2009), Rankings and the battle for world-class excellence: institutional strategies and policy choices, *Higher Education Management and Policy*, vol. 21, no. 1: 1-22.

Hegarty, N. (2014). Where We Are Now-The Presence and Importance of International Students to Universities in the United States. *Journal of International Students*, *4*(3);

Hood, C. (1991). A public management for all seasons. *Public administration*, *69*(1), 3-19.

Hvidman, U., & Andersen, S. C. (2014). Impact of performance management in public and private organizations. Journal of Public Administration Research and Theory, 24(1), 35-58.

Hyvonen, J., (2007), Strategy, performance measurement techniques and information technology of the firm and their links to organizational performance, Management Accounting Reasearch, Vol. 18, pp. 343-366

International Public Sector Accounting Standards Board (IPSASB), International Public Sector Accounting Standard No. 3 Accounting Policies, Changes in Accounting Estimates and Errors, 2008.

IPSAS 22 - Prezentarea situaţiilor financiare privind sectorul de stat

IPSASB (2008), Consultation Paper Developments in Performance Measurement Structures in Public Sector Entities;

IPSASB (2011), Consultation Paper Reporting Service Performance Information;

Ismail, S., & Bakar, N. B. A. (2011). Reporting practices of Malaysian public universities: The extent of accountability disclosure. *African Journal of Business Management*, *5*(15), 6366.

Jääskeläinen, A., & Lönnqvist, A. (2011). Public service productivity: how to capture outputs?. International Journal of Public Sector Management, 24(4), 289-302.

Jackson, P. M. (2011). Governance by numbers: what have we learned over the past 30 years?. *Public Money & Management*, *31*(1), 13-26.

Jencks, C., & Riesman, D. (1968). The academic revolution.

Jesilow, P., & Ohlander, J. (2010). The impact of the National Practitioner Data Bank on licensing actions by state medical licensing boards. *Journal of health and human services administration*, 94-126.

Jesson, J., Matheson, L., & Lacey, F. M. (2011). Doing your literature review: traditional and systematic techniques. Sage.

Jobbins, D. (2002), The Times/The Times Higher Education Supplement --League Tables in Britain: An Insider's View, *CHEE*, vol. 27, no. 4: 383-388.

Johnes, J. (2006). Data envelopment analysis and its application to the measurement of efficiency in higher education. *Economics of Education Review*, *25*(3), 273-288.

Johnes, J., & Taylor, J. (1990). *Performance indicators in higher education: UK universities*. Open University Press and the Society for Research into Higher Education.

Johnson, D. R. (1995). Alternative methods for the quantitative analysis of panel data in family research: Pooled time-series models. *Journal of Marriage and the Family*, 1065-1077.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational researcher*, *33*(7), 14-26.

Johnston, L. H. (2006), Software and Method: Reflections on Teaching and Using QSR NVivo in Doctoral Research, *International Journal of Social Research Methodology*, vol. 9, no. 5: 379-391.

Johnston, R., & Pongatichat, P. (2008). Managing the tension between performance measurement and strategy: coping strategies. International Journal of Operations & Production Management, 28(10), 941-967.

Jones, R. (2007). The functions of governmental accounting in Europe. Tékhne-Revista de Estudos Politécnicos, (7), 89-110;

Jones, R., Pendlebury, M., (1996). Public Sector Accounting, fourth ed., Pitman, London.

Jongbloed, B., & Vossensteyn, H. (2001). Keeping up performances: An international survey of performance-based funding in higher education. *Journal of Higher Education Policy and Management*, *23*(2), 127-145.

Jongbloed, B., Enders, J., & Salerno, C. (2008). Higher education and its communities: Interconnections, interdependencies and a research agenda. *Higher Education*, *56*(3), 303-324.

Julnes, P. D. L. (2006). Performance Measurement An Effective Tool for Government Accountability? The Debate Goes On. Evaluation, 12(2), 219-235.

Kaplan, R. S., & Norton, D. P. (1992). The Balanced Scorecard – Measures That Drive Performance—, in: Harvard Business Review;

Koçoglu I., Imamoglua, S., Ince, H., Keskin, H.,(2011), The effect of supply chain integration on information sharing: Enhancing the supply chain performance, Procedia Social and Behavioral Sciences 24, 1630–1649;

Kristensen, J., Groszyk, W., & Bühler, B. (2002). Outcome-focused management and budgeting. *OECD Journal on Budgeting*, *1*(4), 7-34;

Kueppers, R. J., & Sullivan, K. B. (2010). How and why an independent audit matters. *International Journal of disclosure and governance*, *7*(4), 286-293.

Laswad, F., Fisher, R., & Oyelere, P. (2005). Determinants of voluntary Internet financial reporting by local government authorities. *Journal of Accounting and Public Policy*, *24*(2), 101-121.

Lawrence, S. & Sharma, U. (2002). Commodification of education and academic labour—using the balanced scorecard in a university setting.*Critical perspectives on accounting* 13.5, 661-677

Legea Educaţiei Naţionale, nr. 1/2011;

Li, Z., & Yao, J. (2015). Homoscedasticity tests valid in both low and high-dimensional regressions. *arXiv preprint arXiv:1510.00097*.

Lindenberger, U., & Pötter, U. (1998). The complex nature of unique and shared effects in hierarchical linear regression: Implications for developmental psychology. *Psychological Methods*, *3*(2), 218.

Lye, J. (2006), ''Performance measurement in the public sector: a clarification and agenda for research'', *Australian Accounting Review*, *16*(39), 25-33.

Lynch, R. L., & Cross, K. F. (1992). Measure up!: The essential guide to measuring business performance. Mandarin;

MacBryde, J., Paton, S., Grant, N., & Bayliss, M. (2012). Performance measurement driving change: a case from the defence sector. *International Journal of Productivity and Performance Management*, *61*(5), 462-482.

Maingot, M., & Zeghal, D. (2008). An analysis of voluntary disclosure of performance indicators by Canadian universities. *Tertiary Education and Management*, *14*(4), 269-283.

Marshall, M., Wray, L., Epstein, P., & Grifel, S. (1999). 21st century community focus: better results by linking citizens, government and performance measurement. Public Management, 81(10), 12-19.

Martínez-Caro, E., Cegarra-Navarro, J. G., & Cepeda-Carrión, G. (2015). An application of the performance-evaluation model for e-learning quality in higher education. *Total Quality Management & Business Excellence*, *26*(5-6), 632-647;

McDavid, J. C., & Hawthorn, L. R. (2006). Program evaluation & performance measurement: An introduction to practice. Sage.

Meier, K. J., & O'Toole, L. J. (2011). Comparing public and private management: Theoretical expectations. Journal of Public Administration Research and Theory, mur027.

Melo, A. I., Sarrico, C. S., & Radnor, Z. (2010). The influence of performance management systems on key actors in universities: the case of an English university. *Public Management Review*, *12*(2), 233-254.

Mendes, P., Santos, A. C., Perna, F., & Teixeira, M. R. (2012). The balanced scorecard as an integrated model applied to the Portuguese public service: a case study in the waste sector. Journal of Cleaner Production, 24, 20-29.

Metodologia ARACIS, 2011.

Metodologie de alocare a fondurilor bugetare pentru finanțarea de bază și finanțarea suplimentară,a instituțiilor de învățământ superior de stat din România, CNFIS, 2015.

Mimba, N. P. S., Helden, G. J., & Tillema, S. (2013). The design and use of performance information in Indonesian local governments under diverging stakeholder pressures. *Public Administration and Development*, *33*(1), 15-28.

Mintzberg, H. (1989). Mintzberg on management: Inside our strange world of organizations. Simon and Schuster;

Modell, S. (2001). Performance measurement and institutional processes: a study of managerial responses to public sector reform. *Management Accounting Research*, *12*(4), 437-464.

Modell, S. (2004). Performance measurement myths in the public sector: a research note. *Financial Accountability & Management*, *20*(1), 39-55.

Montesinos, P., Carot, J. M., Martinez, J. M., & Mora, F. (2008). Third mission ranking for world class universities: Beyond teaching and research. *Higher education in Europe*, *33*(2-3), 259-271.

Moullin, M. (2002). Delivering excellence in health and social care: Quality, excellence, and performance measurement. Open University Press.

Moynihan, D. P. (2008). The dynamics of performance management: Constructing information and reform. Georgetown University Press;

Moynihan, D. P. (2013). Advancing the empirical study of performance management: What We learned from the program assessment rating tool. *The American Review of Public Administration*, 0275074013487023.

Moynihan, D. P., Pandey, S. K., & Wright, B. E. (2012). Setting the table: How transformational leadership fosters performance information use. *Journal of Public Administration Research and Theory*, *22*(1), 143-164;

Moynihan, D.P. & Pandey, S.K., (2010), The Big Question for Performance Management: Why Do Managers Use Performance Information?, Journal of Public Administration Research and Theory, 20 (4): 849-866;

Muntean, M., Sabau, G., Bologa, A. R., Traian, S., & Alexandra, F. (2010). Performance Dashboards for Universities. In *Proceedings of the 2nd International Conference on Manufacturing Engineering, Quality and Production Systems*;

Murias, P., de Miguel, J. C., & Rodríguez, D. (2008). A composite indicator for university quality assesment: the case of Spanish higher education system. *Social Indicators Research*, *89*(1), 129-146.

Nadiri, H., Kandampully, J., & Hussain, K. (2009). Students' perceptions of service quality in higher education. *Total Quality Management*, *20*(5), 523-535;

Neely, A. (2005). The evolution of performance measurement research: developments in the last decade and a research agenda for the next. *International Journal of Operations & Production Management*, *25*(12), 1264-1277.

Neely, A. D., Adams, C., & Kennerley, M. (2002). The performance prism: the scorecard for measuring and managing business success. London: Prentice Hall Financial Times.

Nelson, M., Banks, W., & Fisher, J. (2003). Improved Accountability Disclosures by Canadian Universities*. *Canadian Accounting Perspectives*, *2*(1), 77-107.

Nistor, C. S., & Deaconu, A. (2012). The Link between Human Resources Competitively and Romanian Academic Education. *Procedia Economics and Finance*, *3*, 806-816.

Ordinul ministrului Educației nr. 6262/2011;

Osborne, J. W. (2000). Advantages of hierarchical linear modeling. *Practical Assessment, Research & Evaluation*, *7*(1), 1-3.

Parker, D., Waller, K., & Xu, H. (2013). Private and public services: productivity and performance migration. International Journal of Productivity and Performance Management, 62(6), 652-664.

Patterson, M. (2011). The public institution. Understanding the logic of cultural production in the public sector. Lucrare prezentată în cadrul American Sociological Association Annual Conference, Las Vegas, NV;

Pollitt C., Van Thiel S. and Homburg V. (2007), New public management in Europe. Adaptation and alternatives;

Pollitt, C. (2006). Performance Information for Democracy the missing link?. Evaluation, 12(1), 38-55.

Pollitt, C. (2011). Moderation in all things: international comparisons of governance quality. Financial Accountability and Management, 27(4), 437-457.

Pollitt, C., & Bouckaert, G. (2011). Public Management Reform: A comparative analysis-new public management, governance, and the Neo-Weberian state. Oxford University Press.

Propper, C., & Wilson, D. (2003). The use and usefulness of performance measures in the public sector. Oxford review of economic policy, 19(2), 250-267;

Provan, K. G., & Milward, H. B. (2001). Do networks really work? A framework for evaluating public-sector organizational networks. Public administration review, 61(4), 414-423;

Putu S, N., Jan van Helden, G., & Tillema, S. (2007). Public sector performance measurement in developing countries: A literature review and research agenda. Journal of Accounting & Organizational Change, 3(3), 192-208.

Quinn, A., Lemay, G., Larsen, P., & Johnson, D. M. (2009). Service quality in higher education. *Total Quality Management*, *20*(2), 139-152;

Radnor, Z. J., & Barnes, D. (2007). Historical analysis of performance measurement and management in operations management. International Journal of Productivity and Performance Management, 56(5/6), 384-396.

Rainey, H. G., & Bozeman, B. (2000). Comparing public and private organizations: Empirical research and the power of the a priori. *Journal of public administration research and theory*, *10*(2), 447-470.

Rantanen, H., Kulmala, H. I., Lönnqvist, A., & Kujansivu, P. (2007). Performance measurement systems in the Finnish public sector. International Journal of Public Sector Management, 20(5), 415-433.

Raportul European Association for Quality Assurance, 2009.

Recommanded Practice Guidline 3 (2015). Reporting Service Performance Information, International Public Sector Accounting Standards Board;

Rosa, E. B., (1921) Taxation and Public Expenditures, Annals of the American Academy of Political and Social Science, 95, 1-113;

Rowlands, B. H. (2005). Grounded in practice: Using interpretive research to build theory. *The Electronic Journal of Business Research Methodology*, *3*(1), 81-92.

Saaty, T. L. (2008). Decision making with the analytic hierarchy process. *International journal of services sciences*, *1*(1), 83-98.

Sahney, S., Banwet, D. K., & Karunes, S. (2004a). Conceptualizing total quality management in higher education. *The TQM magazine*, *16*(2), 145-159;

Sahney, S., Banwet, D. K., & Karunes, S. (2004b). A SERVQUAL and QFD approach to total quality education: A student perspective. *International Journal of productivity and performance management*, *53*(2), 143-166;

Sanderson, I. (2001). Performance management, evaluation and learning in 'modern' local government. *Public administration*, *79*(2), 297-313.

Sarrico, C. S. (2010). On performance in higher education: Towards performance governance. *Tertiary Education and Management*, *16*(2), 145-158.

Săveanu, S., & Ştefănescu, F. (2012). Academics perception about university curricula in Bologna system. Case study at University of Oradea, Romania. *G. Pusztai, A. Hatos&T. Cegléd (Eds.) Third Mission of Higher Education in a Cross-Border Region, Center for Higher Education Research and Development – Hungary (CHERD-Hungary), University of Debrecen, Debrecen*, 96-113;

Schneiderman, A. M. (1999). Why balanced scorecards fail. Journal of Strategic Performance Measurement, 2(S 6), 11;

SCImago. (2007). SJR — SCImago Journal & Country Rank. Retrieved July 30, 2015, from http://www.scimagojr.com

Scott, J. C. (2006). The mission of the university: Medieval to postmodern transformations. *The journal of higher education*, *77*(1), 1-39;

Shapiro, S. S., & Wilk, M. B. (1965). An analysis of variance test for normality (complete samples). *Biometrika*, *52*(3/4), 591-611.

Shende, S., & Bennett, T. (2004). Transparency and accountability in public financial administration. United Nations.

Shin, J. C. (2010). Impacts of performance-based accountability on institutional performance in the US. *Higher Education*, *60*(1), 47-68;

Sinclair, A. (1995). The chameleon of accountability: Forms and discourses. *Accounting, organizations and Society*, *20*(2), 219-237.

Smith, P. (1988). Assessing competition among local authorities in England and Wales. *Financial Accountability & Management*, *4*(3), 235-251.

Smith, P. (1990). The use of performance indicators in the public sector. Journal of the Royal Statistical Society. Series A (Statistics in Society), 53-72;

Smith, P. (1995). Performance indicators and outcome in the public sector. *Public Money & Management*, *15*(4), 13-16;

Solà, M., & Prior, D. (2001). Measuring productivity and quality changes using data envelopment analysis: an application to Catalan hospitals. Financial Accountability & Management, 17(3), 219-245.

Sole, F. (2009). A management model and factors driving performance in public organizations. Measuring Business Excellence, 13(4), 3-11.

Sordo, C., Orelli, R. L., Padovani, E., & Gardini, S. (2012). Assessing global performance in universities: an application of balanced scorecard. *Procedia-Social and Behavioral Sciences*, *46*, 4793-4797.

Speklé, R. F., & Verbeeten, F. H. (2014). The use of performance measurement systems in the public sector: effects on performance. Management Accounting Research, 25(2), 131-146.

Starling, G. (2010). Managing the public sector. Cengage Learning.

Sultan, P., & Wong, H. (2010). Performance-based service quality model: an empirical study on Japanese universities. *Quality Assurance in Education*, *18*(2), 126-143;

Suryadi, K. (2007). Framework of measuring key performance indicators for decision support in higher education institution. *Journal of Applied Sciences Research*, *3*(12), 1689-1695.

System of National Accounts (SNA), 2008;

Talbot, C. (2008). Performance regimes—The institutional context of performance policies. Intl Journal of Public Administration, 31(14), 1569-1591.

Talbot, C. (2010). Performance in government: The evolving system of performance and evaluation measurement, monitoring, and management in the United Kingdom. World bank. Independent evaluation group (IEG).

Tam, M. (2001). Measuring quality and performance in higher education. *Quality in higher Education*, *7*(1), 47-54.

Taylor, J., & Baines, C. (2012). Performance management in UK universities: implementing the Balanced Scorecard. *Journal of Higher Education Policy and Management,* 34(2), 111-124;

ter Bogt, H. J., & Scapens, R. W. (2012). Performance management in universities: Effects of the transition to more quantitative measurement systems. *European Accounting Review*, *21*(3), 451-497;

Terracciano, A., McCrae, R. R., Brant, L. J., & Costa Jr, P. T. (2005). Hierarchical linear modeling analyses of the NEO-PI-R scales in the Baltimore Longitudinal Study of Aging. *Psychology and aging*, *20*(3), 493.

Thiel, S. V., & Leeuw, F. L. (2002). The performance paradox in the public sector. Public performance & management review, 25(3), 267-281;

Thomas, P., (2006), Performance Measurement, Reporting, Obstacles and Accountability: Recent Trends and Future Directions, Australia and New Zealand School of Government Monograph . Canberra : ANU E-Press;

Tiron-Tudor, A., & Mutiu, A. (2006). Cash Versus Accrual Accounting in Public Sector. Studia Universitatis Babes Bolyai Oeconomica, 1990.

Torres, J. L. B., & Femenías, L. B. (2007). Sistemas de información de gestión en el sector público: El cuadro de mando integral en las universidades públicas españolas. *Revista Iberoamericana de Contabilidad de Gestión,[S. l.]*, *5*(9), 81-106.

Torres, L., Pina, V., & Yetano, A. (2011). PERFORMANCE MEASUREMENT IN SPANISH LOCAL GOVERNMENTS. A CROSS-CASE COMPARISON STUDY. *Public administration*, *89*(3), 1081-1109.

van Dooren, W. (2008). Nothing new under the sun? Change and continuity in twentieth century performance movements. Performance information in the public sector: How it is used, 11-23;

van Helden, G. J. (2005). Researching public sector transformation: the role of management accounting. Financial Accountability & Management, 21(1), 99-133.

van Helden, G. J., & Reichard, C. (2013). A meta-review of public sector performance management research. Tékhne, 11(1), 10-20.

van Helden, G. J., & Reichard, C. (2016). Commonalities and Differences in Public and Private Sector Performance Management Practices: A Literature Review. In *Performance Measurement and Management Control: Contemporary Issues* (pp. 309-351). Emerald Group Publishing Limited.

van Helden, G. J., Johnsen, Å., & Vakkuri, J. (2008). Distinctive research patterns on public sector performance measurement of public administration and accounting disciplines. *Public Management Review*, *10*(5), 641-651.

Vilalta, J. (2001). University policy and coordination systems between governments and universities: The experience of the Catalan university system. *Tertiary Education & Management*, *7*(1), 9-22;

Voss, R., Gruber, T., & Szmigin, I. (2007). Service quality in higher education: The role of student expectations. *Journal of Business Research*, *60*(9), 949-959;

Wisniewski, M., & Dickson, A. (2001). Measuring performance in Dumfries and Galloway constabulary with the balanced scorecard. *Journal of the Operational Research Society*, 1057-1066.

Wisniewski, M., & Stewart, D. (2004). Performance measurementfor stakeholders: The case of Scottish local authorities. International Journal of Public Sector Management, 17(3), 222-233.

Wrightstone, J., Rechetnick, J., McCall, W., & Loftus, J. (1939). Measuring social performance factors in activity and control schools of New York City. The Teachers College Record, 40(5), 423-432.

www.shanghairanking.com/ARWU-Methodology-2014.html#2;

www.u-multirank.eu/#!/methodology?trackType=home&sightMode=undefined;

Wynne, A. (2008). Accrual accounting for the public sector–a fad that has had its day. International Journal on Governmental Financial Management, 8(2), 117-132.

Yüksel, H., & Coşkun, A. (2013). Strategy Focused Schools: An Implementation of The Balanced Scorecard In Provision of Educational Services. *Procedia-Social and Behavioral Sciences*, *106*, 2450-2459.