BUDGET ANALYSIS IN THE LOCAL ACTION GROUPS

BUMBESCU SORINA SIMONA

PHD STUDENT, 1 DECEMBRIE 1918 UNIVERSITY OF ALBA IULIA, ROMANIA
e-mail:sorina.bumbescu@yahoo.com

Abstract

The objective of this article is to highlight the importance of budgets for any organization, there is an interdependence relationship between the degree of the objectives achievement and transfer them into the budget. Based on the previous existing studies regarding the budgets, in this article there is developed a theoretical framework of the budgets, conceptual approaches on the budget, features and stages of budgeting, budgeting principles, methods for forecasting costs and also is developed a case study conducted on the peculiarities budgets in Local Action Groups in Romania. The case study is divided into three parts that refers to to main characteristics of Local Action Groups, particularities of the costs budgeting within the Local Action Groups and a questionnaire applied to all Local Action Groups for Romania. The research leads to two important categories of tangible results; on the one hand it is realised a theoretical qualitative synthesis on budgets, and on the other hand it is analized the structure of the expenditure budget, the budget management in the Local Action Groups for Romania.

Keywords: budget, costs, expenses, Local Action Group.

JEL Code: M21, M41

1. Introduction

The achievement activity budget of a company, department, project, etc. is essential for any organization activity. Budgeting as a complex process is a continuous activity that takes place throughout the year and in relation to all characteristic areas of the organization. One of the considerations for which the preparation of a budget is a critical issue for the activity development it refers to the fact that it imposes certain quantitative and qualitative restrictions.

The budget system is an important management tool that has as aim to achieve a profitable activity that fall within certain limits. The company's budget is directly related to the foundations management: forecasting, execution and control. Management should plan in advance the costs, resources and to eliminate shortcomings. The budget is a synthetic array which can include, on the one hand, key indicators of the activity developed by the organization and on the other hand a forecast of significant elements for the development of future activity.

The aim of the budget construction is developing a management model that allow customization and adaptation of the basic objectives. The management of any activity requires knowledge of the objectives that must be achieved and the resources required to achieve the objectives. The budget as a management tool is a way of setting goals, organization, coordination, training, monitoring and evaluation of results.

The research hypotheses which we intend to check consist in:

I1-Local Action Groups which pays attention to budgetary mechanisms have a high degree of absorption of European funds;

I2-Local Action Groups that do not pay attention to budgetary mechanisms have a low degree of absorption of European funds;

2. Research methodology

The research methodology used in this article combines qualitative and quantitative research. In the first part it is provides a theoretical overview of the current state of knowledge, from the conceptual approach of budgeting, budget features and stages of development, continuing with the principles of budgets making, presenting methods for forecasting costs and highlight the role of forecast costs for projects. As a main research technique it is used literature review process, documenting in the relevant literature including foreign sources, the study of works from this area, various articles, websites.

In order to capture the interactions between the various elements and to obtain information on the subjects, it is used the case study, analysis and interpretation of data. The case study is divided into three interlinked parts. So it starts with the presentation of the main features of the Local Action Groups (LAG), continue with highlight the elements of costs budgeting and in the last part it is provided an analysis based on questionnaire which purpose is to indicate the interdependence between budget management and the absorption degree of the budgetary funds. The analysis conducted based on a questionnaire was carried out in all of Romania LAG in number of 163, out of them only 90 providing a response to the questionnaire. LAGs respondents were divided into two categories: those that have over
50% of budget spent, which means a high absorption rate and others with less than 50% consumed budget, i.e., a low absorption rate.

3. General considerations on budgets

The budget is a planning assumption, contributing to a profitable forecast management. Considered as a forecast document of the business entity, the budget is developed annually and sets the allocation resources and responsibilities in departments, sectors, activity centers, etc. From a practical point of view, the notion of budget can be understood as a list containing the expected revenues and expenses of an entity, regardless of its size, involving a certain period of time [1].

For the most entities, the budget period is one year, but with segmentation on quarters, months, weeks. It also uses the method of alternative budgets, i.e., different depending on the production conditions. We can say that budgets are established standard which are reported the operations are reported, compared and adjusted by control. They allow a certain degree of flexibility and adaptability needed to keep up with rapidly changing conditions that arrive in business.

The budget is an expression of accounting and financial action plans so that the intended objectives on short-term lead to the operational plans achievement [9]. The overall budget (global) refers to operational and financial plans of management made on a determined period of time, usually one year, and includes a set of financial statements budget. The general budget is the initial plan of activities that the organization will undertake in a set period.

The budgetary targets must match the organization's strategy, so that the budget reflects the management guidelines for the next exercise. The budget of an organization is important for the activity success because of three reasons:

- push the management to reflect on the future activities and to plan the goals on short, medium and long term;
- involves collaboration of the entire management team;
- allows analysis of performance at all levels of management by comparing with the actual achievements.

The main features of the budgets are [3]:

- Planning and coordination. The budget is operating within long-term objectives for the development of operational plans. The planning is the key of success in any organizations and the budget is an essential stage of planning. Those are expressed as the primary budget (master) which contains the secondary budgets - refers to the involvement, in an efficient way, of all production factors, departments and economic functions which will allow the entity to achieve its goals
- Authority and responsibility. The budget process involves establishing and taking responsibility of every manager who has a budget; such as approving a budget involves authorization of all activity plans.
- Communication refers to the understanding and acceptance by all employees of the organization's objectives, budget is a factor of communication between various management levels
- Control helps eliminate adverse deviations regarding the consumption and government revenue;
- Performance evaluation. The performance of management may be assessed after the fulfillment of the budget so that they can help to monitor managers' own performance.

We appreciate that besides the budget features mentioned above, should be added the motivation. A motivating factor in budgeting is to involve management at medium and low level.

Budgeting stages can be summarized as follows [3]: establish the organization's objectives for the coming year, develop provisional budget, checking budgetary coherence, developing and submitting final budgets to responsibility centers, follow the budget implementation and updating them according to state objectives.

The budget can be considered as a correlation and efficiency tool of the relationship between expenditure and revenue in any organization irrespective of its profile and budgeting is an economic practice which involves a process of allocation of financial resources in order to achieve established objectives. The budget can be viewed like a financial plan through which is provided in financial expression, the resources to achieve a goal by a certain organizational subdivision.

The budget is an essential component of management control systems, having a number of important advantages [5]: requires strategic planning and implementation of plans, provides a frame of reference for evaluating performance, determining communication and coordination between sub-divisions of the company. The budget is a tool for analyzing economic and financial activity by comparing the accounting data with the projected dates, determining deviations and their causes in order to substantiate a correction optimal decisions and to achieve budgetary control. This interpretation is schematically shown in figure no. 1.
Budgets are developed at the organization level but also on the responsibility centers, being usually made during the calendar year, broken down into semesters, quarters and sometimes days for each responsibility center. Different budgets that forming budgetary system of the organization are interdependent, ensemble coherence is a key issue pursued by the firm's managers in budgetary management control. Therefore, the construction budget is an iterative process that must ensure all budgets articulating in a coherent whole. Articulation of different budgets within a coherent budget system, developed in an organization is presented in figure no. 2.
4. **Principles of budget preparation**

In developing the budget system is considering a number of principles [4]:

- principles regarding the on long-term goals, which include: setting long-term goals, compiling long term goals in a master schedule;
- principles regarding objectives and strategies on short-term, which include: converting long-term objectives in the short-term goals and strategies, master budget enroll in the general policy of the company;
- principles regarding the interaction between budgete and policy staff that involves: identifying budget manager, identify the actors involved in the development and execution of budgetary provisions, encouraging free communication;
- principles regarding the budgete development involves: developing realistic approach to budgetary provisions, meeting deadlines for submission of budget information, flexibility in the implementation of budgets;
- principles regarding the budgetary control refer to: monitoring of budgetary provisions, the reconciliation by flexible budget, anliza deviations by selective management, creating a system of regular reports on performance.

**Costs forecast**

Budgeting involves forecasting revenues and costs. To make a prediction of costs and revenues must be considered the following elements:

- **Datas.** Any prediction is based on past data and the fact that everithing is dynamic and constantly changing;
- **The models used must be suggestive and may refers to** graphics used as the model, seasonal fluctuations;
- **Future conditions;**
- **Errors.** Any forecast implies a certain level of risk of errors.

Based on past data, the costs forecast can be achieved using the following methods [4]: Engineering, accounts analysis, maximum/minimum points, scatter diagrams, regression analysis.
Engineering is based on constructing models of complete costs (materials, labor, indirect) required to achieve a level of activity. It sets the outputs cost and the expected cost of inputs. It is base don the technical information evaluated considering on the expected costs.

The accounts analysis refers to the use of information from the expenditure accounts, grouping them into fixed and variable in order to identify them on cost objects or on the period. In this method, the accounting information is more important than the technique information.

Maximum/minimum points. The method is based on historical data considering costs from different levels of activity, thus anticipating the cost of an activity are identified the fixed and variable costs. Variable cost is determined by calculating the variable cost depending on the cost variation and the activity in maximum and minimum points. Because it is based only on activity and costs, the method of maximum/minimum points has certain restrictions.

Dispersion diagram is based on the idea that changing one variable causes change of other variables, which is known as a causal relationship. Given the existence of these variables appear the questions about the behavior of these variables: the factors vary in the same direction or the opposite?, changing a variable is the result of the combination of several variables change?. Diagram variables can be dependent or independent. The correlation between two variables can be provided through several options, such as:

- right correlation
- positive correlation when both variables increase
- negative correlation when one variable increases the other decreases.

The correlation degree measurement between two variables is performed by the correlation coefficients.

The regression analysis refers to the process by which can be predict the cost (Y) for a given value of the level of activity / products number (X). The model is based on the relation $y = ax + b$ where „a” is the slope that is variable element and „b” is the fixed element.

If we refere to the costs forecast necessary for the development of a project, they must be very well founded since the design phase of the project. An erroneous estimate of the costs of a project may have negative effects in the implementation phase, creates difficulties in providing cash flow or even lead to abandon the project due to lack of financial resources.

The main categories of costs encountered in any type of project regardless of funding source are:

- salary costs or consulting costs for the project implementation, which may be considered as direct costs or indirect costs. Administrative costs of the project are treated as costs of paying salaries to the project manager, secretary, etc
- material costs are direct costs. The materials vary from one project to another;
- equipment costs. The development of a projects require specific equipment that can be rented, taking in leasing or purchased, each of the three alternatives involving a different levels of costs.
- Insurance costs (machinery, cars) and other costs. In the category other costs may be include expenses related to consulting services, periodic inspection, the completion of design plans.

The costs required to implement a project are combined in the project budget. This is more than a simple sum of these costs is used to identify the costs of implementing the project, informing the customer of the amounts required to be allocated, informing the project manager about the amounts required for various activities. A well structured budget indicates not only the amounts to be spent, but when have to be made these expenditures. Thus it follows that there is a close relationship between the project budget and the project plan (activities, objectives, results).

Considering the above mentioned we conclude that the budget plays an important role in the management of each project, with a significant contribution in the monitoring phase.

Regarding the budget forecast, this can be achieved on the short term (up to one year), medium term (1-3 years) and long term (3-5 years). We consider that the budget forecasting procedure involves three steps:

- income forecasting derivated from various sources depending on the legal status (sales revenue in companies, grants, donations, european funds);
- expenses forecasting and the investments required to achieve the proposed objectives, the projects implementation;
- establish the needs and fundingsources for the planned period and forecasting the cash flow.

5. Case study: cost budgeting in Local Action Groups

General Characteristics of Local Action Groups

Local Action Groups (LAGs) are private non-governmental organizations (NGOs), authorized by the Ministry of Agriculture and Rural Development as Local Action Group under Axis 4 LEADER of the RDP (Rural Development Programme) sub-measure 431.2. LEADER approach, "bottom-up" is a way that allows the Local Action Group to choose a coherent group of measures adjusted to the priorities identified in its territory, measures transfered into local development strategies. The actions financed by LEADER refers to integrated and choerent measures which leads to the development of the rural economy for the benefit of communities.
Local Action Groups are entities that refer to public-private partnerships, consisting of representatives of public, private and civil from a homogeneous rural territory that have to meet a number of requirements on the composition, the covered territory and will implement an integrated strategy for development of the territory.

Currently in Romania operates 163 LAGs. The first selection was made in 2011 after which they received authorization decision 81 LAGs and in 2012 was made the second choice, being selected 82 LAGs. Each LAG is based on a plan known as the Local Development Plan.

In the Local Development Plan of each LAG are included a set of financing measures that are provided in the RDP. For each funding measure is provided a certain amount (examples of measures: 112, 121, 322, 313 312, etc.). After concluded the contract between LAG and Paying Agency for Rural Development and Fisheries, each LAG will proceed to the selection and evaluation of projects according to measures and amounts from the Local Development Plan, following the procedure manuals.

**Specific particularities of the costs budgeting within the Local Action Groups**

In each LAG there are two important categories of budgets, namely: the budgete for the development of LAG activity and the budget for the funding measures available in Local Development Plan (for each measure is provided a certain amount). The budgete for the development of LAG activity is divided into two components:

- component “a” - Operation of the Local Action Group;
- component “b” - Training and animating the territory.

Between the two budgets there is an interdependence realationship, meaning that LAG can apply for the payment of the expenses only if is a certain amount consumed by the beneficiaries of the measures (the amount consumed in the first stage refers to the value of contracts signed and in the second stage to actual payments made to beneficiaries by Paying Agency for Rural Development and Fisheries).

The fundamentals of LAG reimbursement expenses by Paying Agency for Rural Development and Fisheries are:

- the reimbursement of eligible expenses incurred by the LAG is made by Paying Agency for Rural Development and Fisheries only after the payment of those expenses by LAG;
- the share of operating costs (component a) can not exceed 80% of the total LAG budget;
- training and animation expenditure ratio (component b) must be at least 20% of the total budget for LAGs selected in 2011 and 15% (not to exceed 300,000 Euro) for LAGs selected in 2012;
- LAGs may request reimbursement of the expenses only if in the financing measures there is a certain amount for which were signed the contracts and then paiied to direct beneficiaries (town hall, individuals, organizations).

The standard model of LAG budget is presented in Table no. 1.

<table>
<thead>
<tr>
<th>Budget for component “a”</th>
<th>Eligible expenses</th>
<th>Ineligible expenses</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Euro)</td>
<td>(Lei)</td>
<td>(Euro)</td>
</tr>
<tr>
<td>I Expenses with LAG human resource</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II Expenses for LAG activities development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III Expenses for outsourced service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL Value (without VAT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAT value</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL Value including VAT</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Budget for component “b”</th>
<th>Eligible expenses</th>
<th>Ineligible expenses</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Euro)</td>
<td>(Lei)</td>
<td>(Euro)</td>
</tr>
<tr>
<td>I Expenses for training – GAL employees ald local leaders</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II Expenses for area studies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III Expenses for promotion events</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV Expenses for providing information on local development strategy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V Others expenses for territory animation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL Value (without VAT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAT value</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL Value including VAT</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: www.apdrp.ro
Regarding the eligible costs for component "a", those can be summarized as follows:

- in Chapter 1 "expenses with LAG human resource" are included the salary costs including debts to the state budget. Regarding the staff salaries there are certain maximum amounts: maximum 7 minimum salaries/month for LAG manager; maximum 6 minimum salaries/month for experts with superior studies and up to 4 minimum salaries/month for staff which have high school education.

- in Chapter 2 «expenses for LAG activities development» are included the following expenses: office rent, cleaning services, transport rent, maintenance equipment and supplies, consumables (paper, toner, office consumables), communications services.

All costs above require procurement procedure, except the costs of: communication, payment of utilities, office rent.

- in chapter 3 "expenses for outsourcing services" are included the expenditures for services that LAG will benefit from and has no staff for these: consulting, expertise, audit, accounting, computer services).

All these categories of expenditure for Chapter 3 require procurement.

Regarding the eligible costs for component "b", all these categories of expenditure require procurement procedure. These include:

- Chapter 1 "training expenses- LAG employees and local leaders" includes all costs related to training: equipment rental; participation fees; transportation, accommodation and meals.

- Chapter 2 includes expenses for studies of the area in the territory related to the implementation of the local development plan.

- Chapter 3 "expenses for promotion events" includes any expenses whose purpose is to promote, for example, promotional materials, press articles. Also in this chapter are summarized the expenses that support the promotion actions: fuel, equipment and space rental, transport, accommodation and meals.

- Chapter 4 „Expenses for providing information on local development strategy”. The aim of the expenses included in this chapter is to ensure the transparency of the action made and create image in the territory covered by LAG.

- in Chapter 5, "Other expenses for animating the territory" may be included events by animating the territory, seminars, other events.

It is important to note that within the operating budget (component a and b), when is signing the contract, it is established a lump sum for each budget chapter, as in the implementation phase each LAG will allocate those costs on years and subchapters.

### Analysis of budget management in Local Action Groups

Considering the importance of the budget in LAG activity, we intend to realize an analysis of the budget management by LAGs in Romania, which are in number of 163.

In order to analyse the budget management, it was made a questionnaire which includes four specific questions. The questions included in the questionnaire and the responses are summarized in Table no.2. The questionnaires were directed to the decision persons in LAG respectively the legal representative/project manager, ie by 163 people. Of the 163 potential respondents within the 163 LAGs were received responses from 90 LAG, ie about 55% of the total of 163. It follows that the final sample consists of 90 persons from 90 LAGs, which represents 55% of the total LAGs who are currently operating at the national level.

LAGs examined (those who answered) were classified into two categories, namely:

- LAGs who consumed more than 50% of the operating budget (component a and b) and for the amounts allocated to measures Local Development Plan;
- LAGs who consumed less than 50% of the operating budget (component a and b) and for the amounts allocated to measures Local Development Plan;

From the total LAGs, 90, who provided responses, 52 had consumed more than 50% of the budget and 38 consumption less than 50% of the budget. The checking of the two categories of LAG analyzed reported to the amounts reimbursed by Paying Agency for Rural Development and Fisheries until June 2014.

<table>
<thead>
<tr>
<th>Questions</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you considered useful the current budget structure?</td>
<td>LAGs who consumed more than 50% of the budget</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>1. Do you appreciate that the algorithm for calculating operating costs (up to 80% component &quot;a&quot; and at least 20% component &quot;b&quot;) support LAG activity?</td>
<td>40</td>
</tr>
<tr>
<td>2. Do you considered justified the method of payment</td>
<td>42</td>
</tr>
</tbody>
</table>
of the operating costs, 10% of value of the contracts signed by the beneficiaries and the amount of payments made to direct beneficiaries?

<table>
<thead>
<tr>
<th>4. Do you appreciate as necessary an estimate of operating costs (component and b)? What about the absorption of funds allocated on each measure?</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
</tr>
</tbody>
</table>

Source: author’s view

Interpretation of results

Chart no. 1: Consumed budgets centralization within LAG respondents

From the total of 163 existing LAGs at national level only 55% or 90 LAGs were receptive to the questionnaire. We found that from 90 LAGs 52 have consumed over 50% from the available budget within “a” and “b” components and from the finance measures and 38 consumed less than 50% of the budget. This situation is shown in the chart no. 1. Although the budgets are an important tool for monitoring and controlling the activities performed by LAGs, we found out that there is a low concern of the management in providing answers on identifying the deficiency of the current budget structure.

Chart no. 2: Adequacy budget structure

Regarding the responses to the first question, it appears that most of LAGs with high absorption believes that the actual budget structure is useful and appropriate and its components. This situation is shown by the 45 LAGs with more than 50% absorption, i.e. the rate of 86.5% compared with LAGs with low absorption from which 52.6% considers appropriate the current structure.
Regarding the calculation algorithm and the method of reimbursement of costs incurred by the LAG there are several restrictions imposed by the procedure manual. We appreciate that these budget restrictions have a negative effect on the efficiency LAG activity. However LAGs with high absorption appreciate that both calculation algorithm (76.9% of LAGs) and the method of expenditure payments (80.7% of LAGs) are justified and correctly documented. In the case of LAGs with low absorption, the situation is opposite, meaning that only 47% of LAGs assessed as effective the current calculation algorithm and 42.1% found that the method of cost payment is correct.

If we refer to the necessity and opportunity of the budget forecasts, most of LAG considers that is necessary to forecast budget for each year and each chapter as well as an estimate of the amounts that will be absorbed into the funding measure. So 92.3% of LAGs with high absorption rate appreciates as efficient the method of forecasting the budget and within the LAGs with low absorption, 73.7% have the same opinion.

6. Conclusions
In an economic entity or project, the budget builds on the organization's objectives, on the managers opinion from different hierarchical levels, on the relations between departments, on the present and future activities and financial resources that will exist. The budget is built top-down and bottom-up meaning that the strategic objectives from the top level are passed down, and that the managers opinions from the lower levels are collected and analyzed at the higher level, is decided and communicated to the negotiation and the for execution at the lower levels.

The premise of the realisation of this article is to identify the role of the budget in the economic entities and especially in Local Action Groups. In this paper it is made a synthesis of existing notions about the budgeting process and also an applied approach of the developing budgets within Local Action Groups (LAGs). The paper also aims to highlight the existing relationship between the information provided by the budgets, the budget process impact on the decisions taken by management.
From the research made it results that there is a close relationship between the objectives set by the organization and their budget because the budget is a numerical prediction of goals and means of achieving them.

Considering the current economic instability in which occur a series of structure changes, we consider as necessary to achieve an estimate of the activity of an organization, a project. We believe that in each activity, an important place is occupied by the forecast through budgets. Given the crucial role of budgets in an entity, it results that it is not only a numerical prediction of goals but it is a management tool.

The budgets matter that relates to revenue, costs, have a different structure depending on the activity of the organization. If we refers to the budgets of Local Action Groups those have a predetermined standard format, existing a series of restrictions in terms of expenditures that can be made, their level.

From the analysis performed on the LAGs for Romania regarding the level of consumption of budgeted amounts, the following conclusions can be mentioned:
- LAGs that already have an absorption quite high, above 50%, have a superior performance in terms of managing budgets, managing to fit in the budget restrictions imposed and to consume a substantial part of the budget;
- LAGs that have a low absorption, below 50%, have a low performance in terms of budget management, an important part of the budget is still unused.

It is important to note that the main objective of each LAG is to consume all amounts allocated to measures otherwise it diminishes proportionally the LAG operational costs (component a and b). The efficiency of a LAG is given by the level of absorption of funds who are designed to rural community from the territory covered.

Based on the above mentioned, it prove as true the two research hypotheses according LAGs which pays attention to budgetary mechanisms have a high degree of absorption of European funds compared with those who don’t pay attention to the budget mechanisms have a low degree of absorption.

Taking into account the mentioned, we recommended to give more importance to the corresponding cost budgeting, budget forecasting in both operating budget (component a and b) and for the funding measures.

The research conducted is only part of a future research that the authors intend to achieve and refers to performance analysis of LAGs in Romania during the period 2007-2013 compared with LAGs from EU, analyzing the causes and proposing measures that can be implemented at the national level.

Another research direction concerns the analysis of the elements in terms of budgets for the period 2007-2013 compared to the period 2014-2020 and achieve a forecasts concerning the performance in the next period.

“This work was supported by the project “Excellence academic routs in the doctoral and postdoctoral research” co-funded from the European Social Fund trough the Development of Human Resource Operational Programme 2007-2013, contract no. POSDRU /159/1.5/S/137926.”

7. References