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EVALUATION ANALYSIS AND THE IMPACT OF ITS MONITORING

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Abstract

The evaluation of the research project is required in order to find out what works and what does not work in the project, to show to the financers the phase it is in and the benefits it brings to them in order to apply for potential supplementary funding, if necessary, to improve the participants' work. All the results should be assessed and analyzed taking into consideration the manner in which the funding is justified. In order to achieve this objective the monitoring of the research projects is a priority and plays an important role. This paper examines how the impact assessment and monitoring them following that through further studies to develop a model for assessing the economic value of research projects.

Key words**:** *evaluation criteria, economic evaluation, project management*

INTRODUCTION

For maximization of the evaluation benefits of the research project it is recommended to invest a lot in planning (time and effort), to integrate the evaluation in an activity in course in the project performance, the personnel participation and implication showing that this participation is important, their implication should be as earlier and as much as possible, to realistically deal with the problems occurred [1], [2]. The collection of necessary data for evaluation is made in a given time interval and provides information for supporting the continuation of recommendations, modification and/or cancellation of certain project activities and strategies [3].

MATERIALS AND METHODS

The study is based on the recent literature in the field and presents the authors' opinion on evaluation analysis and the impact on its monitoring. The types of evaluation and assessment monitoring were pointed out along the stages of a project.

RESULTS AND DISCUSSIONS

Evaluation and types of evaluation

Evaluation may be useful in many/multiple ways and it can provide critical data for taken a decision in all the phases of a project elaboration and implementation. The evaluation concepts [4] take into consideration the following:

-Process evaluation – the evaluation of the method in which the project was implemented and of the procedures by whereby the project operates

-Results evaluation – the quantification of results and their correlation with the project objectives

-Evaluation of needs – analysis of needs that stand upon the basis of the project and justify its existence

-SWOT analysis – analysis of strong and weak points, of opportunities and risks or the potential threats that may occur in the project implementation

-Cost-benefit analysis – reporting the costs involving the project to the benefits provided by the project; surveying the manner in which the costs generated by the project are depreciated in time

-Explanatory models – follow the project evolution from the moment of its drawing, during the implementation and after its implementation
-Systematic models – analyze the inputs, the structure, the processes and the outputs in terms of results
-Theory oriented models – asses the validity of the project theory
-The benchmarking – is an evaluation method based on the comparison principle between similar and comparable cases.

The evaluation criteria refer to: relevance, effectiveness, impact, sustainability [4]. The relevance refers to the measure in which the research project will meet the real needs, if the modifications correspond to the needs or to the objective, if the project meets the needs to which it proposes to answer. If the research project fails to meet the needs or covers them partially, it becomes irrelevant. The effectiveness refers to the measure in which the project reaches the proposed objectives. The degree in which the project results meet the needs represents a measure of effectiveness. The effectiveness also takes into consideration also the financial aspect, which means the degree in which the same results can be obtained with fewer resources. If the unit costs are too high for the objectives achieved, it analyzes if the project is too expensive to be continued. The impact represents the net effect caused by the project [5]. An accurate calculation in a complex social and economic context, is almost impossible, therefore it requires estimation, estimating the effects along the project. Sustainability refers to the project continuation after the interruption of funding from the initial source. If the project can continue after its completion and leads to further results, it means that the project has high efficiency. [6].

In addition to the five evaluation criteria we have to consider also the equity and the community involvement. The equity refers to equality in what concerns the access to the services provided by the project, without limits of the age, gender, material and social conditions. The community involvement is considering the results obtained and their utility for the community by direct involvement. The evaluation types represent the theoretical perspectives that stand on the basis of the evaluation approach [4].

Evaluation can be in planning and summative and formative evaluation. The evaluation in planning analyzes the understanding of project goals, objectives, strategies and deadlines. Formative evaluation analyzes the project along its course. Starts in the moment of the launching and continues during the period of the project providing information for the project improvement. This evaluation type has two sections: evaluation of the implementation and evaluation of the progress. The evaluation of the implementation estimates the manner in which the project complies with the plan and can be made once or several times during the course of the project [4]. Before evaluating the results it should be analyzed if the project is truly operational and works according to its description or plan [7]. The assessment of progress made in the achievement of the project goals and consists in collecting information in order to find out if the progress reference points have been achieved and for emphasizing the unexpected evolutions. The summative evaluation analyzes the success of a project and takes place after making the changes, the project is stabilized and the project impact is set up. This type of evaluation collects the information related to processes, impacts and results [4].

For the evaluation on international plan, the Evaluation Standards are used [8]. These standards are useful, feasible, decent, precise and responsible. The evaluation should be made by qualified persons in order to maintain the credibility of evaluation, to be noticeable for the stockholders or investors who evaluate them.

The evaluation goal should be identified well and settled on the basis of the established needs, should clarify and specify the individual values that stand on the basis of the processes and objectives. It also should identify the urgent needs of the persons evaluated, to determine activities and

reasoning that encourage the participants to innovate and understand the behavior, the goal and the problems [9]. The evaluation should lead to permanent information, to promote the responsibility and adjustment to the modifications produced by evaluation. The evaluation must use strategies, the procedures should be practical, in order to protect the demands of the evaluated individuals or the project goals, should offer complete information about acknowledgments, limitations and conclusions and to serve its purpose [10].

In order to evaluate the directions in research way the following criteria were analyzed [11]:

1.Scientific performance [11

This criterion is determined by the question: "What is the new achievement from the conceptual perspective?" and refers to the new and original results quantifiable by means of scientific publications, thus assuring the visibility of the research in the intern and international scientific community.

2.The human potential [11]

Thus we answer the question: "Who obtained the results?" emphasizing the quantity and quality of the human resource currently involved or available in the field of research.

The human potential mainly determines the elaboration of the strategy.

3.The research infrastructure [11]

Question: „What technical means were used in order to obtain the result?" shows the quantity and quality of existing or utilized research infrastructure: installations, laboratories, equipment. The infrastructure contributes to the training of specialists, and to the attraction and maintenance of the human resource.

4. Competitive funding [11] (Buzatu, 2010)

This criterion is determined by the question: „With what funds were the results obtained?" and refers to the capacity of the specialty personnel to attend to project competitions in order to attract the necessary funds for the research planned. The capacity to propose and win projects determines the assurance of appropriate funding and contributes to the research field development.

5. The social and economic impact [11]

„Who will benefit from the research results?" The question considers the contribution of the research in different domains of activity by means of patents, applied technologies, services, professional training.

This is a highly important criterion to be considered in taking the decisions related to the scientific research.

The financial analysis of each project has as objectives: the calculus, the performances and the financial sustainability of the proposed investment and settling the best funding structure, including the optimal level for co-funding from public funds [12], [13], [14.

The assessment of the cash flow for the whole reference period determines the accuracy of performance indicators. Methodology of updated cash flow is based on several practices, which are [15]:

-only the effective cash flows are taken into consideration, being removed the non-monetary flows (accounting flows) as depreciations and provisions;

-the values are incrementally determined and are calculated considering the updated value, thus the future cash flows during the entire period of investments will be reflected at the present value [15].

Currently evaluating research projects are limited to a small number of indicators without taking into account the sustainability of research results. The analysis focuses on research results (books, patents, prototypes, etc) for each type of result, depending on the life cycle of the outcome, the time required to obtain results, taking into account the some results are not obtained immediately. The impact of the results on the economic and social life and its applicability should be analyzed while budgeting a research project. Valuation models should include clear end essential elements of the project, should consider the multiplier effect on the result [16].

Evaluation monitoring

Monitoring and evaluation allow for the revision of the progress, the identification of the problems that appear in planning and implementation, the correction of the potential

errors occurred. The monitoring involves as follows: establishing a system of collecting information related to these indicators; information collection and registration; information analysis; utilization of the information in management [17].

Evaluation involves: establishing the objectives of the project and the impact desired; estimation of the progress considering the objective and the set up impact; analyzing the manner in which the project objective corresponds to the organization's strategy; analyzing how it works; evaluating the cost efficiency and opportunity; what are the implications for the chosen option [18].

In order to choose the indicators for the evaluation of a project, the following steps should be considered [19]:

-Identification of the problem that will be solved using the research result;

-Development of the problem we wish to solve, thus we establish the impact indicators;

-Development of a procedure related to the manner in which we wish to solve it, by using the process indicators;

-Development of the efficacy indicators;

-Development of indicators for the efficiency targets.

The monitoring and evaluation process requires a combination of quantitative and qualitative information. The methods of collecting information must be conceived according to the project. The collected information should be representative and organized in order to provide easy access. For the economic analysis of the project we can use information extracted from reports, statements, protocols, annual accounts, case studies, notes, journals, questionnaires, interviews, examples, statistical data etc.

The monitoring system takes into consideration the data collection, concepts definitions, setting up the indicators, the manner of the data are collected and their analysis. The monitoring and evaluation will have small value if the organization or the project is not using the information resulted from data analysis [19].

After obtaining the information, these information must be used for taking decisions related to the projects, utilization of the results, execution of the required modifications [19]. Monitoring and evaluation are parts of the project management and have the purpose to help in the process of using resources and in the activities in order to provide a continuous development of the results both on short and long term [20]. The impact involves the coordination of all available means in order to obtain durable results, which means that the inputs cause outputs, and the outputs establish the impact. The results are represented by the noticeable changes that may accompany the project. Usually, the results are reported to the desired impact and to the objectives described into the project.

The impact represents positive or negative, primary or secondary effects, that on long terms are determined by a direct or indirect intended involvement in development. The impact is related to the objectives provided into the project. Sometimes, it can be noticeable only after a few years and usually it is not achieved during the life cycle of the project [21].

The economic or commercial impact is obtained by means of technological transfer of the research result (patents, prototypes etc.), thus obtaining new products, profit, new business, etc. The impact of the research consists in resource or time saving, risks reduction, productivity and competitiveness growth, cost reduction, improvement of the production process and efficiency, increased employee number, increased investments, etc. [21]. A project should have results and the results should cause an impact on the development. Due to several big changes in the long time development, influenced by many factors, usually it is impossible to assign an impact to a single project. The project monitoring focuses on the activities and results and on the contribution in achieving the results. The monitoring represents a continuous surveillance of a project progress by systematically collecting

the performance key data used for periodical analysis.

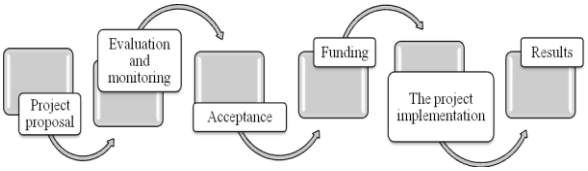

Figure 1. The stages of a project

Evaluation and monitoring are a priority for the success of a project (Fig1.) The funding and the implementation of a project are depending on the conduct of the evaluation.
The „ILO Technical cooperation manual-version 1" [22] categorizes the evaluation in 4 categories: individual evaluation made by the company's personnel that involves low costs; internal evaluation made by the company's personnel not involved into the project that involves average costs; independent evaluation made by independent evaluators that may be from the company but not involved in the project; external evaluation made by external evaluators outside the company. This type of evaluation involves the highest costs [22].

CONCLUSIONS

Evaluation of the research projects during their performance and from the perspective of the exploitation of the results of research can contribute to an efficient funding. The advantage of monitoring is noticeable in optimization of indicators during their execution and in the results optimization. The recovery of the investment in a research project can be found under various forms, and by monitoring we can early follow the efficiency of a research project. It is essential to analyze research projects both during and following their progress. The study will create an evaluation model that allows a quick assessment of a project and an efficiency budget allocation.

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