

# The Dynamic of Project Monitoring and Evaluation Mechanisms within Modern Organizations

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## Abstract

*This paper aims to emphasize the role of monitoring and evaluation mechanisms within project management and their importance in the context of modern organizations. Thus, we provide a short literature review on the evolution of the monitoring and evaluation mechanisms, and we emphasize the fact that the most relevant are: Gantt Diagram, Benchmarking techniques, Balanced Scorecard Management Systems, CPM, PERT, etc. Also, we propose a short review on the correlation between the monitoring and evaluation mechanisms and the project management evolution, identifying six important stages in the development of project management. Therewith, project management developed rapidly, and the application of some rigorous monitoring and evaluation mechanisms became more and more significant, having the capacity to generate outstanding upgrades in what concerns the projects implementation.*

**Keywords:** *project management, monitoring, evaluation, mechanisms, lifecycle, organization, CPM, PERT, diagram, matrix*

**JEL classification:** H43, L29, M19.

## Introduction

The evolution of the main project monitoring and evaluation mechanisms is highly linked to the development stages of project management as a science of its own, emerged from the combination of specific elements of management, civil engineering, engineering, and military and defense activities (Cleland & Gareis, 2006). The more the science of project management evolved, in terms of complexity and applicability, the more the monitoring and evaluation processes gained a higher importance, their methods and techniques developing also, from simple control tools, to sophisticated mechanisms, that combine one or more known methods of tracking project progress.

The basics of monitoring and evaluation mechanisms have been established by Henry Gantt (who developed Gantt Diagram, recognized as the first tool for project planning and monitoring) and by Henry Fayol, who defined the five

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management functions, of which control – evaluation function that still represents the base for the monitoring and evaluation processes. The two authors' papers are practically the precursors of resources allocation theory and of the WBS definition, two fundamental concepts that describe the objective, respectively the track of the monitoring and evaluation processes within the projects.

The next stage in the evolution of monitoring and evaluation mechanisms is represented by the apparition and the development of the management stochastic methods (CPM – developed within a joint-venture represented by DuPont corporation and Remington Rand corporation – PERT developed by Booz Allen Hamilton corporation).

The parameterization of project management with these two stochastic methods was basically a significant impulse for developing methods and techniques that are specific to project management within most of the fields, including those of technical type (engineering, cars engineering, etc.). Projects' monitoring and evaluation became thus attractive processes for investors and for the decision - makers, because the opportunity of application of certain measurable methods made possible the monitoring of the outcomes within labor productivity, resources economy, or better allocation of time, taking into consideration the fact that in the circumstances of lack of some specific monitoring and evaluation methods, the projects are rarely completed in time and under acceptable costs. (Sarantis , et al., 2010).

Assuming that the existence of instruments used for monitoring and evaluation of projects shall enable assessment of their overall viability, there was approached inclusively theoretically a certain predilection of the experts in project management for developing some advanced systems and methods of monitoring and evaluation , associated with project management approaches, of which the most relevant are CCPM (Critical Chain Project Management), XPM (Extreme Project Management), CEM (Critical Events Management) and PRINCE (Projects in Controlled Environments). The need for developing these systems and methods derive mainly from the fact that most approaches regarding the monitoring and evaluation processes follow a rigid logic, focusing especially on data (and not on information), technology (and not on human resources), on processes (and not on services) and on project management structures (rather than knowledge) (Bennets et al., 2000). Based on these considerations, so far, has been developed a number of mechanisms for monitoring and evaluation of projects, currently used by project management teams, of which the most relevant are:

- **Gantt Diagram**, used both for planning and monitoring the projects;
- **Logical Framework Matrix (LFM)**, tackled within a systemic framework approach;
- **Matrix Organization**, meant for optimizing the relationships between project team members and for facilitating information exchange;
- **Probabilistic Management Methods** (PERT, CPM, etc.), designed for both project planning and for their monitoring and evaluation;
- **Monitoring with specialized information programs** (Microsoft

Project, BaseCamp, QuickBase, etc.), used for tracking in real time the projects' evolution, but also for the dynamic and computerized resources reallocation;

- **Benchmarking techniques**, on their basis being defined performance indicators, for the assessment of projects, processes and management relations, by relating to different reference levels determined in terms of similar projects performance that were developed in competitive organizations;
- **Balanced Scorecard Management Systems**, through which the team members are provided with the necessary informational flows for decisions making process, on the base of leading indicators or lagging indicators;
- **Internal audits**, whose utilization is susceptible to provide the team management with relevant information regarding the compliance to applicable standards, procedures and regulations;
- **Initial, intermediate and final activity reports.**

Regarding the monitoring and evaluation processes, recent contributions in the field of project management focus vastly either on the reconfiguration of already existing techniques and tools for monitoring and evaluation, or on the adaptation of the monitoring and evaluation methods taken from other areas of research to the specific of the management projects.

Also, currently, monitoring and evaluation processes include both qualitative and quantitative components in an attempt to capture as complete as possible a certain project progress and development (Espinosa, 1997).

Different international entities developed directory lines applicable within the field of project management, binding applicable elements, which are based on concrete previous experiences encountered in the business area with theoretical elements, as a consequence of a detailed research activity, led by well - known experts in the field of management.

One of the most used tools encompassing directory lines applicable to the field of project management is Project Cycle Management Guidelines, which asserts also a set of tools used in projects operation: logical framework approach, Key Quality Assessment, risk management matrix, progress reports, annual operational plans, initial, intermediate and final activity reports.

Within each stage of the project management cycle the most adequate methods for monitoring and evaluation are known just for a short period of time (Gokhale & Bhatia, 1997), their sequence and the way they are simultaneously or consecutively applied during project implementation depending on a set of subjective and objective factors, but also on the ability, experience and expertise of the project manager.

Beginning with the year 2003, projects management science was added up with the notion of Management of the projects portfolio, which redefines the role of monitoring and evaluation of the projects in terms of two main coordinates:

- simultaneous monitoring of more than one project is complex and hard to manage and needs complex tools and mechanisms, that exceed the simple techniques applied punctually in most of the individual projects;
- evaluation is essential, because an accurate evaluation of a sample of projects within a portfolio will provide with sufficient information and practical elements so that the iteration of same mistakes within future projects that will be attached to the portfolio be prevented, thus contributing, on long term, to the increase of its value (Jonas, 2010).

**1. The synthesis of the evolution of the monitoring and evaluation mechanisms in correlation with the project management dynamic**

Accomplishing a synthesis of the main monitoring and evaluation mechanisms of the projects, we can see the fact that the evolution of monitoring and evaluation mechanisms continued the same bias as the evolution of complexity level of the developed projects as a science of its own, as it is shown in the Table 1.

**Table 1. Main stages in the evolution of monitoring and evaluation mechanisms in correlation with the project management dynamic**

No.	Period	Development stage of the project management	The evolution of monitoring and evaluation mechanisms
1.	1860-1900	Inception stage	Within this period the first concerns regarding management as a science emerge, being underlay a set of concepts that later will justify the detachment of the project management as a science of its own from the science of the general management. The mechanisms for monitoring and evaluation have not appeared yet.
2.	1900-1955	Empirical stage	Within this period become concrete the first base concepts of the project management, being outlined also the first definitions and approaches of the project concept, with regard to civil engineering or to military services. As monitoring and evaluation tools there it can be used the Gantt Diagram and simplified versions of it.
3.	1955-1970	Applied stage	Within this period, the need for an efficient activity generated an anachronism regarding the relation between theory and practice, meaning that within this stage the theories were sporadic, but the monitoring and evaluation mechanisms disseminated very quickly in practice. The CPM and PERT methods are used as monitoring and evaluation mechanisms and was made the first reference to Logical Framework Approach, respectively to Logical Framework Matrix.

No.	Period	Development stage of the project management	The evolution of monitoring and evaluation mechanisms
4.	1970-1990	Scientific stage	<p>Within this period it is ascertained an intensification of the concerns regarding theorization of the project management as a science. There emerge magazines and publications with regard to the project management, most of them being still current. There are made and start working for real bodies that are specialized in project management, such as IPMA or PMI, that still develop their activity and encompass researchers and experts in the field of project management from the entire world. The monitoring and evaluation mechanisms remain focused on Gantt Diagram, CMP and PERT methods and Logical Framework Matrix, being approached also the inception reporting forms, especially in the case of the projects financed by World Bank.</p>
5.	1990-2000	Information stage	<p>Within this period project management follows the world economy approach, detaching practically from the status of technical science and going quasi-definitively to the sphere of economics sciences. The monitoring and evaluation mechanisms rapidly disseminate, under the impulse of the multiple advantages offered by the information and communications technology. There begin to be used on large scale software applications consecrated to project management, there are parameterized monitoring and evaluation systems based on the benchmarking technique or on the key performance indicators, there are promoted flexible management structures, such as matrix organization, there are absorbed new management systems (management through projects) or also new methods and techniques (Balanced Scorecard).</p>
6.	2000-present	Strategic stage	<p>Strategic stage approaches project management as being a key field of the organization strategy, capable of producing added value and competitive advantage. There is ascertained the emergence of based project management structures, and under the impulse of based knowledge economy and of the intellectual capital valorization, there developed companies that have as activity object the elaboration, development, implementation and project monitoring. In what concerns monitoring and evaluation, all the above mentioned techniques are conserved and are combined in innovative ways, in order to ensure the management of the project portfolio which represents one of the most recent approaches in the field of project management.</p>

A recent emerged bias within project management is represented by a new project management manifestation, named Goal Directed Project Management, which represents a pragmatic and solid approach of obtaining a consensus regarding the objectives of a project or of a program from all the implicated stakeholders (Andersen, et.al, 2004).

This approach provides with a concise and overall vision on a project goal, and can be used for monitoring the project progress at intermediate terms. The tool does not replace the classical mechanisms, but it has the quality of establishing in a philosophy accompanied by a set of tools and principles for planning, organizing, leading and monitoring the projects.

Goal Directed Project Management approach has the role of facilitating the information exchange with the investors and focusing the attention on the objectives and on the project results, and not on the methods and techniques that are specific to project management (Wideman, 2002).

## **2. Modern evolution approaches of monitoring and evaluation processes within the context of project management**

Currently, on the background of amplifying the concerns for using efficient mechanisms for monitoring and evaluation of the projects, there emerged and manifest a set of approaches for upgrading the use of monitoring and evaluation mechanisms, taking into consideration the fact that both internal and external stakeholders of a project are aware of the impact of exerting complete and coherent processes of monitoring and evaluation of the project results. In this context, professional literature reflects **three major approaches** that manifest within the exertion of monitoring and evaluation processes and that generate a significant positive impact also on the tools used for exercising these two utterly important processes.

### **↳ Correlation of monitoring processes with the project lifecycle**

Starting with the project lifecycle, defined by PMI (1996), the theoreticians and the practitioners came to the conclusion that each stage of the project lifecycle has certain features that demand using some monitoring and evaluation tools, to the detriment of others, in terms of their advantages and disadvantages. Furthermore, the correlation of the monitoring and evaluation processes with the project lifecycle does not only regard the differentiate selection of the tools used for exerting monitoring prerogatives, but also regard the intensity of which these processes are exerted, through relating to other processes that are specific to the project management cycle.

### **↳ Correlation of the monitoring and evaluation tools in complex mechanisms designed to these projects exertion**

Each of monitoring and evaluation methods and techniques previously mentioned, individually approached, represent tools that facilitate the exertion of monitoring and evaluation processes and that substitute both the traditional *direct observation* (the oldest monitoring method) and the *direct comparison* (the oldest

evaluation method). Each of these tools, presents advantages and limits, their individual use being efficient only on short term. On the other hand, using an unstructured mix of monitoring and evaluation tools is not indicated, this process being time consuming, and in most of the cases, human resources and financial consuming.

In these circumstances, the professional theory and practice put the problem of identification a sequence in using certain monitoring and evaluation tools, sequence that, through the combination of its elements, determines a **monitoring and evaluation mechanism** applied within a project, based on the principles of synergy effect. This approach manifests more and more significantly in the context of project management, the monitoring and evaluation mechanisms being organized either in terms of project team preferences, or in terms of the specific of the developed project.

↳ **The emergence of new professions in the context of project management with attributions in monitoring and evaluation sphere**

Taking into consideration the fact that the monitoring process can prove time consuming and needs also capacities and personal abilities for its exertion in an efficient and compliant way, specialized companies in providing with services designed for project management generate qualified personnel in exerting monitoring processes. Additionally, more and more financing bodies (World Bank, EBRD, European Committee, commercial banks, credit cooperatives, etc.) double the guarantees claimed before grants through a monitoring process of the way the offered grants are used.

An eloquent example is represented by the situation of the projects that are financed from European funds, where to each project there is allocated a monitoring responsible, and within Management Authorities there are established committees/departments or even monitoring directions of projects implementation, being thus emphasized their importance in the context of modern project management.

The materialization of these approaches leads to diminishing the negative impact currently exerted by a set of chronic factors on the efficiency of the projects monitoring and evaluation processes, respectively:

- lack of experience of the project managers and of the project implementation team regarding the correct and complete use of the monitoring and evaluation tools and mechanisms;
- inefficient use of budgets allocated for the exertion of the monitoring and evaluation processes, fact that makes them look insufficient in relation with the real existing needs within projects;
- the mentality of traditionalist project managers, who consider the monitoring and evaluation processes as being preponderantly bureaucratic, that take much time and do not generate added value, reason why they subvert the role and the importance of these two processes in the good development of the projects;
- unsuitable combination of the methods and techniques, into inefficient

or illogical mechanisms, without realizing a correlation of the tools with the project lifecycle, with its dimensions, with its specific elements, or with other relevant factors for the correct definition of a monitoring and evaluation mechanism;

- concision lack and SMART objectives set, that lead to the impossibility of drawing some performance objectives;
- lack of a methodology for the collection of records and data regarding the projects implementation, so that these may be used as historical data sources for future similar projects;
- lack of project managers' involvement in the stage of fundamental monitoring of a significant information volume derived from the compliance monitoring of others similar projects.

The emergence and the dissemination of the three approaches, along with the obvious endeavours for repositioning the monitoring and evaluation processes in the context of project management represent sufficient arguments in order to justify the need for further study of the monitoring and evaluation mechanisms, thus to identify their applicability and vulnerabilities, so that the monitoring and evaluation processes be developed in efficiency circumstances and to achieve the goal for which they are included in the project management cycle.

### **Conclusions**

The article emphasizes the fact that project management evolution knew a rapid ascending, from the stage of non-functional component of the management science, to the stage of strategic component of a company development, situation in which, inherently, the monitoring and evaluation mechanisms (practically the bond that ensures coherence, compliance and a project success) gained a more and more increased significance, thus developing. Therewith, the identification of advantages and limits of each method/technique/mechanism outlines the fact that the development and the consistent application of some rigorous monitoring and evaluation mechanisms could generate significant upgrades in what concerns the projects implementation, in terms of an absence of monitoring and evaluation tools to provide the project managers with complete and relevant information regarding their development manner.

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