Program Management Office of Strategic Programs in Telecom Italia

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Abstract. The Program Management Office (PMO) provides project managers with a proven methodology, automated tools and a training program for an effective management of the activities in order to achieve the expected benefits. The PMO helps projects to overcome critical issues, especially the cross-functional ones. The analysis is focused on the study of Telecom Italia PMO structure in order to show how a great enterprise is able to manage strategic projects across the organization.

The PMO is responsible for monitoring the strategic projects that are most relevant for Telecom Italia Top Management, ensuring a synthetic representation and continuous progress reporting of the activities. This paper aims to identify all organizational elements that characterize the program management function and also describes the tools used to manage the content and to obtain an integrated view of the projects portfolio. The strategic projects are actually included in a dashboard through which information about all the elements that describe the project can be obtained, seen as a set of activities, team work, performance indicators, critical issues, and risks that may appear in single form or aggregate.

Aim of this paper is to evaluate the impact of PMO on the success of strategic projects of Telecom Italia

Keywords: Program Management Office, Project Management, Platform, Telecom Italia

1. Project Management: definition and characteristics

Project Management (PM) provides an organization with powerful tools that improve its ability to plan, implement, and control its activities as well as the ways in which it utilizes its people and resources[1].

PM is a series of management techniques and tools that have been developed since World War II in the US and then implemented since 1950s for military projects and for development of infrastructures. This system uses engineering knowledge in order to simplify complex work assignments that require profoundly diversified proficiency, knowledge, and technology.

The introduction of a project organization enables to get great advantages in terms of work productivity and output quality and, after an initial phase, outweighs the developing costs [5], See Figure 1.
Different definitions of Project Management may be found in literature; this concept has been modified and evolved time by time, assuming different meanings.

The Project Management Institute (PMI), the worldwide reference institution in the definition of projects management, defines PM as “the application of knowledge ability, tools, and techniques linked to the project activity in order to satisfy the prerequisites. PM is obtained through the use of processes like “official start, planning, execution, control and finalization”[2].

Harvard Business School [3] define the PM as “the process of developing substantive, systematic data about each parameter so that the tradeoff decision making between parameters is more effective”.

The English methodology of PM PRINCE 2 [4], as reported by E. Cobos (2007), defines PM as “planning, monitoring, and control of all the aspects of the projects and of the motivation of all those implied with the aim of attaining the project objectives on time and within the cost, quality, and performance requirements”.

PM [6] is a system of results management based on three fundamental elements:
• outlining of responsibility;
• adoption of planning and control systems;
• creation of a project team.

Management by projects consists in delegation, monitoring and control of all aspects of the project and of all the motivation of involved fellows, aiming to reach project goals as of performance targets in terms of time, costs, quality, benefits, and risks [14].

Company Project Management implies the knowledge of its constitutive elements and therefore its entire life cycle constituted by resources, activities, and economics aiming the project results. The project also tends to become the dominating way of Organizing operations in many industries. An increasing number of organizations are identified as ‘project-based’. In these project-based structures, the classic characteristics of unique projects are maintained at the same time as new permanent structures for project portfolio management are instituted to secure managerial control [8]. Pro-
ject-based work has thus become a part of the wave of new organizational forms that has entered most industries during the last decades [7].

1.2 Project life cycle

Project life cycle is a collection of generally sequential project phase whose name and number are determined by the control needs of the organization or organizations involved in the project [2].

The PMBOK [2] defines the product life cycle as “the grouping of project phases, generally in sequence, whose name and number are determined by the typology of the technical work of each phase; the production schedule and deliverable analysis, verification, and validation; the assigned agent involved in the task must know how to control and validate each phase”. The most modern conceptions of a project life cycle [9] show the phases according to the following model, see Figure 2.

![Project Life Cycle Diagram](image)

**Fig 2: Project Life Cycle**

In many structures up to a third of the projects is canceled before any output has been reached while many others proceed without results while absorbing money and resources that could have been used for other purposes. The company’s future depends on the percentage of projects that have achieved expected results. The reduction of resources waste through useless projects is profitable. This is why PM is a very advantageous competitive factor [9].

In literature [16], Morris describes a construction project life cycle:

- Feasibility: project formulation, feasibility studies, and strategic design and approval,
− Planning and design: base design, cost and schedule, contract terms and conditions, and detailed planning. Major contracts are led at the end of this phase;
− Production-manufacturing, delivery, civil works, installation and testing,
− Turnover and Start up: final test and maintenance.

It is crucial to analyze each single phase of a project life cycle because for each of them a specific project management technique is required. PM manages different elements and behavioral aspects in function to the on-going phase: project conception, definition, planning, implementation, and conclusion.

For this purpose, PRINCE2 Method [14] identifies seven processes evidencing the activities that project team management members will execute:
− Start of the project; it is the phase in which all base information of the project have to be gathered, main roles for management team have to be defined and feasibility have to be analyzed;
− Beginning of the project; it is the phase in which activities to be conducted are to be planned;
− Direction of the project; in which the progress and the key decisions of project life cycle are taken;
− Phase control, monitoring of the activities, identification of the progresses and of the corrective actions;
− Product delivery management, production management, activities progress and delivery of completed products, quality control;
− Management of phase limits; key information are updated and a plan for next phase is produced;
− Project closing; necessary activities needed in order to correctly conclude the project are defined.

The complexity of allocating resources comes from the interaction between project activities that have implicit or explicit qualifications with a certain level of uncertainty. The explicit dependence results from previous relations, themselves coming from technological and organizational prerequisites. In this context this state of dependence is being temporarily transformed into constraining activities [10].

The lack of resources causes an implicit dependence between activities that will be considered constraint resources [2].

It is crucial to identify the project objectives in order to correctly manage and allocate resources; for that reason, the Project Manager has the objective to identify projects objectives, related activities, necessary resources, cost and schedule of the project development [14].

1.3 Project Manager role

The key role in project development is the Project Manager. He is responsible for the entire project and must guarantee that the final results are obtained in accordance to predefined cost, schedule, and quality. Project Manager is the one who authority
and responsibility to daily manage the project in order to deliver requested products respecting the agreements with stakeholders [14].

This function requires an excellent management style and a social capacity at building interpersonal relations with the project team and other groups [11].

Main goals to be achieved are:

- Assurance for the project to deliver requested products within determined tolerances in terms of time, costs, benefits, and quality;
- Assurance for the project to produce output in line with the benefits defined in the business plan;
- Preparation of the description of the project, check of benefits, documents for project start, phase plans, highlight reports, management of information flows among different levels, production of requested goods, monitoring controls.

The Project Manager must be trained in order to manage human resources as well as programs and computing systems and to control the project’s activity. The Project Manager is entrusted with complete supervision by the top management. The Project Manager must manage all project interfaces (customers, top manager, providers, partners, project team etc.) and moreover must delegate various responsibilities involved in the project.

1.4 Program Management Office

In many sectors of the economy such as banking, telecommunication and utilities characterized by a continuous and rapid market change, companies must adequately face changes and anticipate evolutions. The managing team must take strategic decisions which deeply impact the management process in relations to customers, computing systems, and internal structure. This is why a PMO is needed [13], a structure with its own resources, acting within the project, supporting the achievement of established goals, schedule, cost, and quality through the planning and monitoring of all the activities [15]. The PMO is responsible for monitoring the strategic projects that are most relevant for Top Management, ensuring a synthetic representation and continuous progress reporting of the activities. The PMO provides project managers with a proven methodology, automated tools and a training program for an effective management of the activities in order to achieve the expected benefits. In particular, it helps projects to overcome critical issues especially the cross-functional ones.

The first important choice is to identify strategic projects. In literature [17] the project selection methods generally fall into two categories:

- benefit measurement methods: comparative approaches, scoring model, benefit contribution or economical models;
- constrained optimization methods: mathematical models using linear, nonlinear, dynamic, integer and multi-objective programming algorithms.

These methods are often referred to as decision models. Decision models include generalized techniques (decision trees, forced choice, and others) as well specialized ones (Analytic Hierarchy Process, Logical Framework Analysis, and other).
Once selected the strategic projects, PMO is the supervisor, in order to represent to the Top Management the project evolution. The adoption of a PMO allows you to:

- provide an integrated view of the cross-functional projects;
- ensure proper prioritization of investments and resources towards those projects that best address the strategic objectives while minimizing their realization risk (RIGHT PROJECTS);
- evaluate the economic results achieved or achievable in all key projects during their execution (EXECUTION), triggering escalation only in case of real urgency and importance;
- improve the ability of people to estimate the objectives in terms of time, cost, and quality (EMPOWERMENT).

Methodological approach for the adoption of PMO implies decisions concerning:
1. Organization;
2. Process;
3. Operating support tool.

At organizational level a Project Manager has to be identified and appointed per each project. Each project may have also operative responsible assigned with the task to develop project plan and to monitor its progresses. Finally, it is useful identifying all reference stakeholders for different project competencies (IT, Purchasing, Customer Care…) that may be involved in order to solve related problems.

At process level PMO, needs to design Top Management activities, project management and PMO, see. Fig. 3. Periodical PMO meetings may be organized in order to evaluate the trend of all strategic programs in order to give a view to Top Management. From an operating point of view, the adoption of an appropriate software tool is useful to:

- Automatize project management analyses and usage;
- Centralize data management on a single technological platform;
- Stratified information management according to the necessary level of attention, allowing information breakdown from a higher level related to working progress to a single data connected to a specific activity (summary document, KPI, Dashboards, etc.).
2. Program Management Office in Telecom Italia

Telecom Italia (TI) is the main Italian Telecommunication and ICT service provider with 117 million consumers and 23 billion Euro billed in 2013.

Its panel of services, mainly composed of advanced solutions for customers, companies, and public administration, deals with mobile and fixed telecommunications, digital contents, and cloud computing.

PMO in Telecom Italia appeared in 2010, with the goal of identifying strategic projects and verifying their execution through schedule monitoring and devoting resources to it. This process enables Top Management supervision of strategic projects, which are instrumental to the company’s success.

PMO in Telecom Italia helps managing complex and horizontal initiatives by encouraging contribution from each company department.

Constant focus on the strategic goals, investment optimization, responsibility apportionment, risk evaluation, work-team and continuous support are the main objectives of the creation of PMO in the company.

The enabling factors are:
- substantial participation of all stakeholders in supporting projects, by suppressing obstacles and assuring necessary communication;
- constant support for projects by guaranteeing a common methodology and efficient problem solving;
- the use of computer technology to provide efficient reports to back up decisions, in order to guarantee speed and objectivity of judgment;
- PMO Community creation in order to share experience and successes, and to facilitate cultural change;
- training sessions for those in charge of the project, to make them better aware of their responsibility.

In Telecom Italia, an infrastructure aiming to allow the development of the enabling factors has been developed mainly constituted by:
- Survey Lessons Learned: the activity of gathering of Lessons Learned has the main goal to point out the good government practices of the projects to be spread and shared inside the community. PMO, in order to speed up the capitalization of the experience and to concretely sustain this way of working. The survey, conducted with CAWI method during 2012 and 2014 have registered a percentage of 49% of participants: more than 140 have been the contacted persons, more than 140 the obtained comments. Main themes have been the performances of the project and the government experience of the project.
- Communication: since 2012 the PMO experience in Telecom Italia have registered a noteworthy success and appreciation during national and international conferences on Project Management in Milan, Rome, Verona, and Hannover.
- More than 100 people with main roles on key projects have participated to the training day on PMO and on Project Management. More than 40 representatives of PMO projects have obtained the professional certification internationally recognized PRINCE2 (Project In Controlled Environment). The PMO
team is certified PRINCE2, P3O (Portfolio, Programme and Project Office) and Agile Project Management.

Community: a net of people that, according to their job, have common needs, interests and goals. Aim of the community is to support and increase the motivation and responsibility of involved people by means of the diffusion of Project Management culture. An Internet site for the community has been developed to diffuse PMO practices, to manage the newsletter, to create a document repository for the projects and to support the PMO sites management.

In order to accelerate the adoption of PMO and to gain acceptance by the entire Company, some Quick Wins initiatives have been implemented to show PMO’s immediate advantages and prove it to be an efficient and effective system. For example, resolution of a long lasting problem, tutoring during kick-off, and guidance on project plan definition.

2.1 The PMO Application Platform: CARDINIS suite

During the first year of activity, PMO was not using any specific software and activities were conducted with the support of tools such as Excel and Power Point; this choice has been motivated by the need of focusing on: Organization and Process.

Once clarified the activities to be conducted, the function has activated the research of a software that could implement its methodology.

In 2011, after a scouting phase on the market, CARDINIS suite platform was chosen. The CARDINIS Suite, the Collaborative Solution for Project & Portfolio Management, meets the needs of all the companies which are aiming to increase their organizational system maturity, providing support in managing portfolios and projects and making the growing process easier. The solution has a modular structure; it can be incrementally implemented according to the needs and maturity of the organization and/or the resources. It can be tailored according to company dimensions (company size, type of activities, project features). Even in its basic configuration the CARDINIS Suite functionalities allow the organization to leverage lessons learnt from in progress and completed projects, thus drastically reducing new projects start up times and their management. Advanced configurations allow to gradually increase the total maturity of the system, aiming at: integrated governance of project portfolios, evaluation and prioritization of new business initiatives and opportunities, information and document exchange an extended collaboration, complete, up-to-date, reliable and as-required data for the Top Management.

In figure 4, a representation of CARDINIS suite project view is showed; this image represents a summary dashboard of main elements configuring a project, inside which it is possible to select major interest areas and obtain detailed information.

It is essential having an integrated view on the Project portfolio, then a global dashboard on the strategic project being able to manage indicators, activities, risks, schedule, and criticalities in a single or an aggregate format. Another very significant element of the platform is Work Breakdown Structure management, i.e. the graphical
representation of the Project components, that can guide the “Project Manager” in completing the Plan and updating it.

Fig. 4 Dashboard Example

More specifically, through the platform it is possible to obtain a project report organized by sections (timing, KPI, activities) containing synthesized information on the project to define objectives, expected benefits, main responsibilities, project status, approximate timing, a comparison between the current status and the baseline observed in the previous checkup, difficulties, and project economic dimensions. The platform contained the following operative information in order to KPI performance, target and current values, and graph representation of the most significant KPI for a trend analysis.

Timing and expected activities status are represented as well as subsequent steps necessary to the development of the activities. It is possible to visualize complex articulation of project activities of most recent product oriented expectations. Activity representation appears through a Gantt Report that shows activities/work package timing according to whether it is a synthesized or a detailed report.

2.2 PMO advantages and results

The objectives of PMO may be divided into two categories: Qualitative and Quantitative.

The first, to create a common project management company culture that allows to lead to success the projects following the same methodology guided by PMO. The quantitative objectives to define the total number of PMO projects closed or released;
the “Success rate” is the percentage of successful projects. “Successful projects” are projects with a positive evaluation of all parameters, each one defined with objective and threshold of tolerance. Evaluation parameters used in TI to define time compliance with agreed schedule, budget compliance with assigned budget, Risk control of severity of project’s issues, and Quality compliance with agreed benefits and deliverables.

Generally, the PMO literature focalizes the achievement of success goals of a project [2] into three elements: time, cost and quality. Telecom Italia added a fourth element to the previous three, Risk Control, intended by the company as the capacity to efficiently manage the critical points of a project. The evaluation of four parameters is conducted on every project in order to evaluate the compliance to the objectives. Moreover, a total evaluation of the parameters on the whole portfolio of strategic projects of Telecom Italia is conducted in order to define the PMO activity by means of a unique parameter, the Success Rate.

During year 2013 positive results have been obtained:

- 91% of the projects respected the parameter “Time” in terms of respect of agreed timing;
- 100% of the projects respected the parameter “Budget” in terms of assigned budget;
- 96% of the projects respected the parameter “Risk Control” in terms of lowering the criticalities;
- 91% of the projects respected the parameter “Quality” in terms of expected benefits.

“Success Rate”, considering only the projects that respected each one of the every parameters, is 85%.

In this framework, technology plays the role of facilitator; the objective that lead to the use of the CARDINIS platform is to increase the level of efficiency of the function collecting all the information related to the single projects in order to allow a global vision of conducted activities. PMO function though CARDINIS manages to configure Suite models by selecting areas of interest, customizing the view on the project elements.

The PMO function of Telecom Italia individualizes and manages the top 20 strategic projects selected by Top Management. The possibility of obtaining a project global vision allows:

- to simplify information sharing;
- to get a quick access to the main information;
- to have a complete view on effective time execution of resources used for the project, planned and sustained costs of objective achievements.

The possibility of managing used resources in a rational way and of relocating advanced tasks following the needs of the various projects represents a fundamental competitive advantage on the market. The creation of a PMO function and the subsequent development of an information system for a better project management constitute an advantage that Telecom Italia has had over its competitors. PMO function has enjoyed an increasing visibility and relevance within Telecom Italia and outside.
3. Conclusion

Between 2010 and 2020 [18], 15.7 million new project management roles will be created globally across seven project-intensive industries. Along with job growth, there will be a significant increase in the economic footprint of the profession; the project management profession is slated to grow by USD$6.61 trillion. In 10 countries with established or quickly developing project management industries, project management roles are expected to increase by over 13.4 million between 2010 and 2020, to over 41.5 million. China and India will lead the growth in project management, generating approximately 8.1 million and 4 million project management roles through 2020, respectively. Italy, in the world ranking comprehending 208 countries for the request of SME certifications scored 14th position, highlighting a severe commitment and interest for expanding Project Management in the companies.

Telecom Italia may be proud of a winning experience consolidated during the years by means of PMO function for strategic project management and is planning to extend the use of this methodology not only to all areas connected to strategic project management but to all functional areas with the goal of obtaining functional coherence and make possible an evolutionary view, detailed as well as global, for the management teams of all the projects.

In this particularly dynamic period time, human resources, and economics management must be rationalized and focused on a specific and previously agreed goal; strategic activity management according to project-based vision will add value to the entire company. Telecom Italia has enjoyed success in its implementation of innovative company management techniques replicable in other context within the company as well as in other corporations.

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