

## PM Methodology Implementation in IT Management

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### Abstract

The implementation of project management methods in IT management is one of the most important factors in the effective planning and resolution of contemporary managerial tasks. It contributes to the development and adoption of appropriate approaches and methodologies for addressing governance challenges within organizations, supports the formation of a new work culture, and ultimately creates a new value chain that provides competitive advantage in the market. Accordingly, this article discusses the importance of having a well-defined strategy for addressing managerial tasks, including the critical role of a properly structured IT governance framework and the existence of IT departments and a Project Management Office (PMO) based on that framework.

**Keywords:** IT, Project Management, Information Systems, IT Governance, SDLC

### Introduction

Business management is inconceivable without the use of information technologies. This is particularly relevant for both small-scale and large enterprises, such as holdings and corporations. Managing such organizational entities is not a simple task regulated solely by theoretical rules. Despite the extensive use of technologies, it is essential to select an appropriate

management policy that complies with the legal environment, meets modern management requirements, and enables the organization to maintain competitiveness in the market[1, 5].

Meeting these requirements highlights the importance of aligning the organization's future vision with IT development strategies. This, in turn, necessitates the establishment of new policies and processes, for which the implementation of effective and well-structured management methods is required [2].

The management of information technologies falls under the full responsibility of the organization's IT departments and constitutes an integral and high-level component of overall organizational management. Within IT departments, all operational activities related to information technologies are carried out in the form of individual programs and/or projects. Consequently, the success of an organization's overall management is directly proportional to the effectiveness of its IT strategy, IT governance, and the successful implementation of IT projects, which may be managed in accordance with internationally recognized methodologies and standards [2, 3, 5].

### **IT Governance and Its Importance**

IT governance consists of leadership, structures, and processes that enable organizations to make decisions ensuring the development, management, and achievement of their IT strategies and objectives [1, 2, 5]. It is an integral part of organizational governance and is essential for the effective management of both large organizations and small and medium-sized enterprises. This requires a clear understanding of organizational goals and objectives in order to appropriately design and implement IT strategies [2].

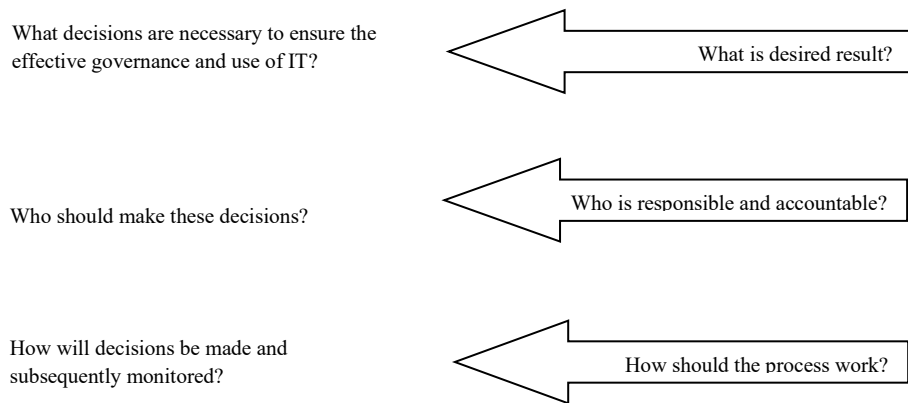
IT governance ensures that IT-related decisions are focused on:

- The appropriate use and effective management of IT departments;

- Monitoring IT department performance to achieve defined objectives and improve processes;
- IT strategies and policies;
- Alignment of IT strategies with organizational goals [2, 5].

To establish proper and effective IT governance following questions should be answered:

*Figure 1 – Three key questions for establishing effective governance*



Within an effective IT governance structure, the following departments are typically included:

- **IT Operations** – responsible for managing IT operations;
- **System Administration** – responsible for the stability of server infrastructure;
- **Database Administration** – responsible for the reliable and secure operation of databases;
- **Network Administration** – responsible for the proper functioning of network devices and network connectivity;
- **Software Development** – responsible for developing and improving software products according to organizational needs;
- **IT Support** – responsible for providing technical support to company employees;

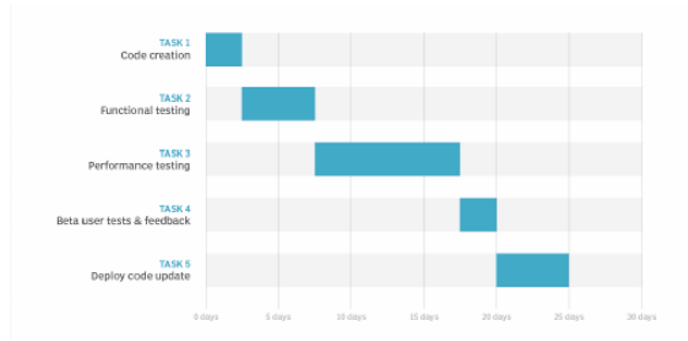
- **PMO (Project Management Office)** – responsible for managing projects and programs within the organization and supporting investment-related initiatives [1, 2, 5].

## PM Methodologies

### *Traditional Project Management Methodology*

Numerous project management methodologies exist in the international arena. For clarity, this paper focuses on two primary approaches: traditional and iterative (Agile) [3]. The traditional methodology consists of several sequential phases, each dependent on the previous one. The process is often planned using a Gantt chart, which visually represents tasks and their start and end dates [3].

*Figure 2- Traditional PM Phases*



The main phases of the traditional methodology include:

**Initiation** – This phase focuses on formally launching the project. It involves identifying key stakeholders, forming the project team, clarifying roles and responsibilities, and defining the project’s vision, goals, tasks, and overall scope. At this stage, initial feasibility is assessed, high-level risks are identified, and the project charter is often developed and approved to authorize the project [3].

**Planning** – During the planning phase, the project concept is elaborated in detail. This includes defining deliverables, breaking down work into manageable tasks (e.g., using a Work Breakdown Structure), estimating resources, budget, and timelines, and assigning responsibilities.

Scheduling tools such as Gantt charts and network diagrams (e.g., CPM/PERT) are commonly used. Risk management plans, communication plans, quality criteria, and procurement strategies are also developed to guide successful project execution [3].

Execution – This phase involves carrying out the planned project activities and producing the defined deliverables. The project team performs assigned tasks, coordinates resources, and collaborates with stakeholders. Project managers ensure effective communication, manage team performance, resolve issues, and implement quality assurance processes. Changes and emerging risks are addressed through established change management procedures [3].

Monitoring and Controlling (often integrated with Execution) – Throughout execution, project progress is continuously monitored against the plan. This includes tracking schedule, budget, scope, and quality indicators; managing risks and issues; controlling changes; and reporting performance to stakeholders. Corrective and preventive actions are taken to keep the project aligned with objectives [3].

Closure – The closure phase formalizes project completion. It includes validating and accepting deliverables, evaluating outcomes against objectives, documenting lessons learned and best practices, closing contracts, releasing resources, and preparing final reports. This phase ensures that knowledge gained is captured for future projects and that stakeholders formally acknowledge project completion [3].

In IT projects, project management phases are often aligned with the Software Development Life Cycle (SDLC), which provides a structured framework for developing, deploying, and maintaining information systems.

The SDLC typically consists of the following stages:

- Requirements analysis
- System design
- Implementation

- Testing
- Deployment
- Maintenance/Monitoring [1, 3].

### *Iterative (Agile) Project Management Methodology*

The iterative project management methodology, as expressed in the Agile Manifesto, was created by individuals who had previously worked with traditional project management approaches, including Waterfall. These individuals included project managers, analysts, developers, and other professionals involved in project delivery. According to them: "We are discovering better ways of developing software by doing it and helping others do it." [4].

As a result of this work, they formulated the following system of values:

- I. We value **individuals and interactions** over processes and tools
- II. We value **working software** over comprehensive documentation
- III. We value **customer collaboration** over contract negotiation
- IV. We value **responding to change** over following a plan [4].

Therefore, although we value the items on the right, we place greater emphasis on the items on the left. Based on the values outlined above, a framework was developed that is globally known as the Scrum Framework [4].

What is Scrum?

Scrum is a lightweight framework that helps individuals, teams, and organizations create value through adaptive solutions to complex problems [3, 4]. It consists of the following key events (processes):

- Sprint Planning
- Daily Scrum
- Sprint Review

- Sprint Retrospective [4].

When an iterative approach and the Scrum framework are chosen as the project management methodology, requirements are initially formulated as User Stories, which are then collected in the product backlog. It is important to note that the backlog is not fixed; user stories can be added or removed throughout the project lifecycle based on evolving project needs. Once the initial product backlog is prepared, the sprint can begin [3, 4].

A comparison table of traditional and iterative methodologies is presented below.

*Figure 3 -Methodology Comparison Table*

ASPECT	TRADITIONAL METHODOLOGY (WATERFALL)	ITERATIVE METHODOLOGY (AGILE / SCRUM)
APPROACH	Linear and sequential phases	Cyclical, incremental development
FLEXIBILITY	Low – changes are costly and difficult	High – changes are welcomed and expected
REQUIREMENTS	Defined upfront and fixed	Evolving requirements (User Stories)
CUSTOMER INVOLVEMENT	Limited, mostly at the beginning and end	Continuous customer/stakeholder involvement
DELIVERY	Single final delivery at project end	Frequent incremental deliveries (sprints)

DOCUMENTATION	Heavy documentation	Lightweight, just-enough documentation
RISK MANAGEMENT	Risks identified early but realized late	Risks addressed early through iterations
PLANNING STYLE	Detailed long-term planning (Gantt charts)	Adaptive planning per sprint
TEAM STRUCTURE	Hierarchical, role-based	Cross-functional, self-organizing teams
BEST SUITED FOR	Stable, well-defined projects	Dynamic, innovative, uncertain projects

There are several aspects that should be considered when selecting an appropriate project management methodology. First and foremost, the project itself must be analyzed in terms of its needs and requirements. Before choosing a suitable methodology, it is essential to clearly understand what requirements and objectives the project must fulfill.

By considering how strict the constraints are in terms of time and budget, it becomes possible to determine whether a traditional or an iterative approach is more appropriate for managing the project.

In addition, the competencies and capabilities of the project team should be assessed, including their level of expertise in the subject area and the extent to which team members are able to work as self-organizing individuals.

The size of the organization and its existing approach to project management should also be taken into account, including whether the organization is large or small and what practices have been applied in previously implemented projects [3, 4].

## Conclusion

In conclusion, organizations should begin by clearly defining their strategic goals, identifying business and technological needs, and formulating a coherent long-term vision before selecting the most appropriate project management methodology. The choice of methodology should not be driven solely by trends or industry popularity, but rather by a careful analysis of the organization's context, project characteristics, regulatory constraints, and maturity level in project and IT governance practices [2, 3, 5].

Both traditional and iterative methodologies offer distinct advantages and limitations, and their successful application depends on proper organizational readiness, leadership support, and cultural alignment. The implementation of any methodology requires a structured change management approach, including the development of appropriate policies, processes, and competencies across the organization. Without adequate preparation, training, and stakeholder engagement, even well-established methodologies may lead to misaligned expectations, resistance to change, and suboptimal project outcomes [3, 5].

Furthermore, the alignment of project management methodology with organizational strategy and IT governance frameworks plays a critical role in ensuring transparency, accountability, and value realization. When strategy, governance structures, and delivery methodologies are coherently integrated, organizations are better positioned to manage risks, optimize resources, and achieve sustainable and measurable project success. This integrated approach ultimately enhances organizational performance and strengthens long-term competitiveness in dynamic and technology-driven environments [2, 5].

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