

THE ROLE OF CERTIFIED PROJECT MANAGEMENT (PMP) IN OPTIMIZING BUSINESS PROCESSES OF SERVICE COMPANIES

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Abstract

In the context of digital transformation and increasing competition, certified project management professionals (PMPs) play a key role in service companies. Their expertise in the application of PMP standards allows them to effectively plan and control projects aimed at optimizing business processes. This leads to increased productivity, improved service quality, and sustainable development. The article examines approaches, methodologies, and practical examples of the application of PMP standards in service organizations, and analyzes their impact on productivity, service quality, and sustainable development.

Keywords: Project management, PMP, business process optimization, service companies, project management.

Introduction

Scientific novelty. For the first time, the PMP methodology is considered as a tool not only for project management, but also for systemic optimization of business processes in service companies. Based on the analysis of literature and practical cases, the directions for integrating PMP with BPM, Lean and Six are determined. Specific advantages of its application in the service sector have been identified.

In the conditions of constant competition and stricter requirements from clients, modern service companies, from IT outsourcing to consulting, are faced with the need for constant optimization of business processes. This is becoming a strategic imperative aimed at increasing operational efficiency, reducing costs, accelerating response to market demands and improving the quality of services provided.

A key factor in achieving these goals is having certified professionals on staff. Project Certification Management Professional (PMP) issued by Project Management Institute (PMI), confirms mastery of international project management standards set out in the PMBOK Guide. PMP certificate holders demonstrate a deep understanding and practical skills in managing process integration, timing and cost, quality, risks and stakeholders [1].

Research and statistics confirm the significant benefits that certified project managers (PMP) provide. Having such certification is not just a formal requirement, but an indicator of high professionalism and competence:

- attractiveness in the labor market and income level. According to analytical data, 86% of employers consider the presence of a PMP certificate to be an important factor when hiring project management personnel. Moreover, specialists with PMP certification earn on average 22% more than their colleagues who do not have this status. This indicates the high market value and demand for PMP professionals [2].

- project implementation efficiency. Companies with PMP managers on staff demonstrate higher efficiency. Their projects are completed on time and within budget significantly more often, which is a critical indicator of success for any organization [3].

The process of preparing for certification and obtaining it itself contributes to the development of systemic thinking in specialists, strengthening communication skills and increasing trust between teams. This creates a favorable environment for the implementation of complex projects. Therefore, the introduction of PMP approaches in the activities of service organizations contributes to the implementation of projects with higher efficiency and quality. This, in turn, leads to the optimization of business processes, reduction of the service cycle, increased customer satisfaction and strengthening the sustainability of the business in a dynamic competitive environment.

PMP certification is based on the PMBOK Guide, which formulates a standardized set of knowledge and best practices. It is based on five process groups (initiation, planning, execution, monitoring, and completion) and ten knowledge areas (risk management, cost, quality, etc.) [4]. Modern editions of the PMBOK have evolved towards principles and domains, emphasizing the universality and flexibility of the methodology.

At a fundamental level, the PMP approach relies on methods such as:

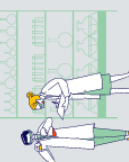
1. Critical path method (CPM) and actual cost management (EVM), which link network planning to costs and schedules [5].
2. The theory of temporary organization (temporary organization) and queuing theory, which helps to effectively manage time frames and resource allocation.
3. The concept of the resource-based approach (Resource-Based View, RBV), which considers project resources as a source of competitive advantage [6].

BPM is a discipline aimed at modeling, analyzing and automating business processes. Its goal is to align processes with the organization's goals to create added value.

Key approaches within BPM include:

- BPR (Business Process Re-engineering). Radical restructuring of processes to achieve significant improvements in cost, quality and speed.
- continuous improvement (TQM, CPI). Methods of continuous improvement of efficiency and quality [7].
- Six Sigma. Structured, quantitative optimization to reduce defects and variations.

It is worth noting that the integration of PMP and BPM creates a powerful synergy. The PMP approach provides structured management of the optimization project. The BPM methodology provides tools for analyzing and improving processes. This merger allows you to use PMBOK + CMMI to develop a continuous improvement strategy, apply machine learning (ML) to analyze and optimize processes at the monitoring and modeling stages, and combine BPM and



Operations Research (OR) for mathematical modeling and optimal resource planning, resulting in sustainable and measurable improvements [8].

Table 1 - Main components of PMP and approaches to business process optimization

PMP/Theory Component	Function in project management	Relationship with business process optimization
PMBOK (processes, knowledge)	Standard Project Management System	Formalizes change and quality management
EVM & CPM	Cost and Time Control through Network Analysis	Allows you to predict and improve processes
Resource-Based View (RBV)	Strategic use of resources	Brings resources into the strategic plane
Temporary Organization / Queuing Theory	Structure and load management	Improving resource allocation and workflows
BPM (modeling, automation)	Analysis and optimization of processes	Increases efficiency, automation and control
BPR	Reengineering processes for fundamental change	Accelerates and improves key processes
Six Sigma	Quantitative Methodology of Improvements	Implements measurable process improvements
PMBOK + CMMI integration	Methodology + process maturity model	Stimulates continuous growth and quality
ML in BPM	Analysis, modeling and prediction	Improves data-driven decision making
BPM + OR	Modeling and algorithmic optimization	Efficient allocation of resources and schedules

Therefore, theoretical PMP (Project Management Professional) fundamentals, including PMBOK (Project Management Body of Knowledge), CPM (Critical Path Method), EVM (Earned Value Management) methods and concept RBV (Resource-Based View), create a solid framework for systemic project management. Combining these approaches with modern methodologies for optimizing business processes (BPM, BPR, Six Sigma, CMMI), as well as advanced analytical tools such as machine learning (ML) and operations research (OR), it is possible to achieve high levels of efficiency and sustainability in service companies.

The article «On the Importance of Project Management Capabilities for Sustainable Business Process Management» analyzes the role of PMP methodologies (Project Management Professional) in optimization business process management (BPM). It has been proven that successful process optimization and digitalization initiatives directly depend on the effective application of PMP approaches. According to this article, the success of BPM initiatives is largely due to the application of knowledge from the PMBOK (Project Management Body of Knowledge). In particular, eight out of ten PMBOK knowledge areas are involved, which confirms the strong relationship between BPM and the PMP approach [9].

Process improvement initiatives are still viewed as full-fledged projects with a clearly defined beginning and end. Such projects often use hybrid life cycles that combine elements of agile and predictive management. This provides both the structure and flexibility needed to successfully change processes.

PMP methodologies provide a structured plan for optimization, in particular through the DMAIC (Define – Measure – Analyze – Improve – Control) phases, where:

- Define - goals, processes and areas for improvement are clearly defined.
- Measure - data is collected to create a performance baseline.
- Analyze - bottlenecks and key causes of inefficiency are identified.
- Improve - changes and tools have been implemented to improve processes.
- Control - new approaches are consolidated and standardized to ensure the sustainability of the results achieved.

These phases are actively used in BPM projects, as they allow a systematic and consistent approach to structuring and simplifying processes.

The researchers write that PMBOK and process maturity models such as CMMI (Capability Maturity Model Integration), can be combined. This convergence allows organizations to use flexible approaches to process improvement while relying on proven and standardized project management methodologies. This creates a solid foundation for continuous improvement and innovation [10].

Table 2 - PMP methodologies in business process optimization

PMP methodology/tool	Role in project management	Contribution to business process optimization
PMBOK – knowledge areas	Project structuring, standards of practice	Change management, quality and risk management
DMAIC (Define – Measure – ... – Control)	Process Improvement Methodology (Six Sigma)	A systematic approach to process analysis, improvement and control
Hybrid Life Cycle (Waterfall + Agile)	Balance between strict control and flexibility	Flexibility in implementing changes while maintaining process stability
PMBOK + CMMI integration	Integrating governance and process maturity	Continuous improvement and standardization of processes

Thus, the PMP methodologies (Project Management Professional), including PMBOK, DMAIC and hybrid approaches, play a key role in optimizing business processes. They allow improvement initiatives to be viewed as structured projects, apply methodologies for diagnosis and control, and provide flexibility to adapt to changes. The combination of PMBOK with process maturity models (CMMI) creates a basis for sustainable continuous improvement in service companies.

In our study, we analyzed cases demonstrating how PMP standards and related methodologies (DMAIC, ITIL, BPM) are used to optimize processes in various service industries.

1. «Caja Madrid» is one of the largest Spanish savings banks. In 2002, it initiated a process improvement program (SPI) with the aim of achieving CMMI Level 2 maturity. The project implemented the Project processes Planning and Project Monitoring & Control , based on PMBOK standards. This made it possible to systematize and control the progress of software development projects. The bank reached the second level of CMMI maturity in just 17 months, which is significantly faster than the standard period of 2+ years. This case confirms that the

implementation of formalized PMBOK processes accelerates the institutionalization of changes and the passage of external maturity assessments [11].

2. «Harz University» is a public university in the Harz region of central Germany. The university's IT service center was faced with the need to optimize its release management process (Release Management). A project was initiated, during which the process was transformed from the current state («As-Is») to the target («To-Be») using the best practices of ITIL and the PMP project approach. As a result, an effective and documented reference release management process was created, which can be applied in other educational centers. The project approach ensured the structure and controllability of the transformation process, which became the key to a successful result [12].

3. «Caja Municipal de Ahorro y Crédito Cusco S. A.» is a Peruvian financial institution. There was a need to implement a systematic approach to project management in the bank's infrastructure department. Based on the PMBOK Guide standards, a Project Management Office (PMO) was developed and implemented. The PMO is responsible for the design, documentation, control and metrics of projects. As a result, a centralized structure for project management was created, which ensures uniformity and increased efficiency. The use of PMBOK standards made it possible to build an effective and sustainable project management system adapted to the needs of the financial institution.

Table 3 - Summary table of cases

Company/Organization	Sphere	What has been done	Result
Caja Madrid (Spain)	Banking - software development	Planning and Monitoring processes (PMBOK + CMMI)	CMMI Level 2 maturity level achieved in ~10 months.
Harz University (Germany)	IT support in education	Transforming the Release Process Management with ITIL	Optimized To-Be Release Process
Caja Municipal Cusco (Peru)	Banking infrastructure	Creating a PMO according to PMBOK standards	Standardization of project management, control, metrics

In the context of accelerating globalization and technological change, the demand for certified project management professionals (PMPs) will continue to grow. Forecasts show that by 2027, the number of vacancies for project managers will grow by a third, which is twice as fast as the market average [13]. This growth is due to their key role in digital transformation, automation and service modernization.

Modern projects require a combination of classic and flexible approaches. PMP standards are adapting to this, becoming a universal basis for hybrid methodologies (Waterfall + Agile). PMP specialists are increasingly using AI support, predictive analytics and automated tools to improve efficiency [14].

Technological innovations such as AI, IoT and Blockchain are fundamentally changing project management. AI and automation free up managers' time from routine tasks, allowing them to

focus on strategic management. IoT and Blockchain create opportunities for transparent and automated processes, which is critical for services where trust and security are essential.

Thus, PMP certification will remain a relevant platform that will include new digital competencies, ensuring the competitiveness of service companies in a rapidly changing economy.

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