

MANAGEMENT, PRODUCTION AND DESIGN

Ateneo/DIGEP - Adaptive Project Portfolio Management for Digital Transformation Processes

Funded By	Dipartimento DIGEP Politecnico di TORINO [P.iva/CF:00518460019]
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Context of the research activity	<p>This proposal is part of the research program "Future trends in Project Management" within the Project Management Lab (PMLab) at the Dept. of Management and Production Engineering.</p> <p>The project will contribute to developing methodologies, techniques and software tools for evolving the Project and Portfolio Management (PPM) discipline in industrial, infrastructure and public sectors that are undergoing major digital transformation processes, such as the widespread adoption of Model-Based Design and Artificial Intelligence.</p> <p>The research will leverage on existing and future case studies based on research contracts and collaborations established between the PMLab and various companies and public bodies both in Italy and internationally, such as Jacobs, Tecne ASPI, Regione Piemonte, Infra.TO, among others. The research will be conducted in collaboration with Boston University Metropolitan College's Project Management Program to engage international authors, access internationally relevant case studies, share methods, and work on shared digital solutions.</p>
Objectives	<p>Technology-driven and digital projects require new PPM methods and practices to become more adaptable and resilient to continuous change. By embracing digital transformation and addressing the limitations of traditional PPM, organizations can cultivate an agile and responsive PPM environment.</p> <p>This includes leveraging real-time data analytics and adopting agile methodologies to accommodate shifting priorities to build a resilient PPM framework that can handle disruptions, optimize resource allocation and financial cash flows, and ensure project portfolios are aligned with dynamic and evolving business strategies.</p> <p>The research aims to:</p> <p>(i) Analyze the limitations of traditional PPM methodologies in the context of digital transformation programs. Identify the specific challenges posed by rigid planning processes, siloed information management, and the inability to adapt to dynamic priorities.</p> <p>Analyze practices and tools internationally.</p>

- (ii) Explore the potential of digital transformation tools and techniques to promote agile and resilient PPM practices.
- (iii) Develop a framework for implementing agile PPM in the context of digital transformation. This framework should outline key strategies for overcoming identified PPM limitations and capitalizing on identified opportunities. The framework should be designed to be adaptable and scalable to meet the specific needs of different organizations and project portfolios.
- (iv) Evaluate the effectiveness of the proposed agile PPM framework using real-world case studies.

Skills and competencies for the development of the activity

- (i) Project Management Knowledge: Understanding of traditional PPM methodologies and their limitations.
- (ii) Digital Transformation Expertise: Familiarity with emerging technologies, IT systems, and software tools for PPM relevant to digital transformation.
- (iii) Data Analytics Skills: Ability to work with and interpret data from multiple sources to gain insight into project performance and resource allocation. This would include statistical analysis, and machine learning algorithms.
- (iv) Model-based project design: process analysis and reengineering, BIM systems, and system dynamics modeling.