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PROJECT MANAGER AS AN INTEGRATOR OF BUSINESS AND TECHNOLOGY IN CONDITIONS OF INCREASING COMPLEXITY

Mykhailo Zhelieznov, Master of Computer Science, Project Manager
SoftServe Inc

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The rapid evolution of modern technologies, including artificial intelligence, cloud computing, embedded systems, and real-time platforms, creates new challenges for organizations. Businesses require fast and reliable solutions, while technologies demand deep expertise and careful implementation. According to PMBOK (8th Edition), a project is a temporary endeavor undertaken to create value, emphasizing the importance of adaptability and integration in project management [1].

The purpose of this study is to analyze the role of the project manager in bridging business and technology, identify key integration approaches, and highlight the importance of education in building future talent pipelines.

Modern projects operate in an environment where technological complexity increases while business demands faster delivery and return on investment. This creates a fundamental contradiction: technology requires depth, while business requires speed. Therefore, adaptive and context-driven approaches are essential.

The project manager acts as an integrator who connects business needs with technological capabilities. Systems thinking is critical, as projects consist of interdependent components. According to PMI, system effectiveness depends on interactions between its elements [2].

Effective stakeholder engagement involves clarifying actual needs, aligning expectations, and translating business requirements into technical solutions and vice versa.

Project managers must operate in an environment where technological decisions cannot be made in isolation and often exceed the depth of a single individual's expertise. Therefore, effective management of technological complexity requires a combination of foundational understanding, expert involvement, and data-driven decision-making.

In practice, this includes:

- establishing a baseline understanding of technologies to evaluate capabilities and risks;
- engaging subject matter experts (SMEs) to validate decisions and support complex problem-solving;
- formulating the right questions to bridge business and technical perspectives;
- using data-driven approaches and AI tools to accelerate research, analyze options, and support risk identification;

- leveraging partnerships and ecosystems to extend available expertise.

In complex projects, the role of the project manager is not to know everything, but to ensure that the right knowledge, data, and expertise are brought together at the right time.

AI transforms project management by improving decision-making, forecasting, and optimization. However, AI projects introduce uncertainty, data dependency, and ethical considerations, requiring adaptive approaches [3].

One of the most critical challenges in modern technology-driven projects is not the availability of technologies, but the lack of qualified professionals capable of effectively applying them. Addressing this challenge requires a systemic approach that combines industry practices, continuous learning, and collaboration with educational institutions.

In practice, this includes:

- reskilling and upskilling experienced engineers, enabling them to adopt new technologies while preserving high standards of engineering culture and soft skills;
- supporting technology transitions in collaboration with customers, where experienced teams migrate to new platforms and domains;
- bridging the gap between industry and academia by sharing real-world technology needs and aligning educational programs with current market demands;
- contributing to formal and informal education initiatives, including industry communities, corporate learning platforms, and specialized training programs;
- building long-term talent pipelines that ensure sustainable access to skilled professionals for future projects.

Such an approach allows not only to address immediate project needs but also to create a scalable ecosystem for continuous innovation and technological growth.

The study demonstrates that the project manager plays a key integrative role in aligning business, technology, and education. Project success depends on systems thinking, stakeholder engagement, risk management, and talent development. Modern project management focuses on value delivery through integration of complex systems.

References

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