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Approaches to Implementing Agile Within Traditional Project Management Standards.

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Abstract: This article explores integrating flexible project management methodologies into traditional standards to adapt to modern dynamic environments. Agile methodologies, initially invented for software development, emphasize adaptability, iterative processes, and close collaboration with stakeholders. Meanwhile, traditional standards, such as PMBOK and PRINCE2, are characterized by a predefined flow focused on stability and detailed planning. The study examines the feasibility of combining Agile and traditional methodologies within hybrid project management models. The focus is placed on achieving a balance between flexibility and structure, as well as addressing challenges related to organizational change. The article highlights the importance of transitioning to cross-functional teams and adapting cultural paradigms for the successful implementation of hybrid solutions. Empirical data suggest that projects employing hybrid approaches demonstrate increased efficiency, improved stakeholder engagement, and reduced risks. However, implementing such models involves challenges, including resistance to change and the need for personnel training. The findings indicate that hybrid models have the potential to become a universal project management standard, combining the strengths of traditional and Agile approaches to achieve sustainable success in high-uncertainty environments. This article will be valuable to project managers, program managers or similar considering the application of Agile methodologies within project execution.

Keywords: project management, flexible

methodologies, Agile, traditional methodologies, hybrid models, Agile-Waterfall, ScrumBAN, PMBOK.

Introduction: Project-oriented organizational structures, though varying in their manifestations, often depend on the core functions of firms in industries and their alignment with project management processes. Over the decades, flexible project management has attracted significant attention as a way to transform the existing paradigm, positioning itself as a potentially "ideal" approach to managing modern projects when combined with traditional project management methodologies. However, in practice, it rarely takes the form of a unified, monolithic methodology. Instead, project management today represents a unique blend tailored to the specific operational needs of the managing organization.

This raises several clarifying questions. Within the framework of this study, it is necessary to define the objectives pursued by the author. Specifically, it is crucial to determine what is meant by the "approach to project management" and how this term differs from the "project management methodology." These terms are often used interchangeably without clarification, leading to confusion in academic and professional discussions. Furthermore, it is essential to specify what distinguishes flexible project management from traditional methodologies and whether these seemingly incompatible approaches can be unified within a single project management system.

The key question is whether project managers should strive for a "silver bullet" [1], a universal, comprehensive methodology applicable regardless of conditions, or whether it is preferable to focus on "silver pellets", i.e. to adjust approaches taking into account specific project parameters, and in this scientific vein based on a generalized analysis of publications and practical examples reveal the features of the functioning of combined models, highlight their

advantages, and identify the structural transformations required by organizations.

MATERIALS AND METHODS

The performed research is based on a qualitative comparative approach based on a review of empirical publications, theoretical constructions and documented applied solutions covering software development, manufacturing and the service sector.

In the studied field, scientific research is extensive. For example, the works of B. Boehm, K. Baganova [2, 9] focus on the differences between traditional and flexible project management methods. Research by D.S. Lalich, and M. Spundak [7, 5] highlights the unique characteristics of Agile and other flexible methods. A. Tanzim and H. Taiminger [3, 6] explore hybrid models that combine flexible and traditional project management approaches in their studies. E. Kutsch [4], in his book, discusses how to make projects and project managers more resilient, including through the application of Agile methodology.

Project adaptability, stakeholder satisfaction, speed of delivery, and resilience to volume changes are used as evaluation parameters, and the central task in this process belongs to cross-functional teams (CFT) acting as a link between methodological foundations.

To investigate this phenomenon, this study begins with an analysis of hybrid implementations of flexible methodologies alongside traditional standards. Such hybrids are becoming increasingly prevalent in industries where the solidity of the Waterfall model – a development process divided into distinct phases that follow one another strictly without returning to previous stages, often falls short of expectations. At the same time each Agile iteration, lasting one to several weeks, is evaluated for its ability to deliver practical outcomes and gather swift feedback from stakeholders, as illustrated in **Figure 1**.

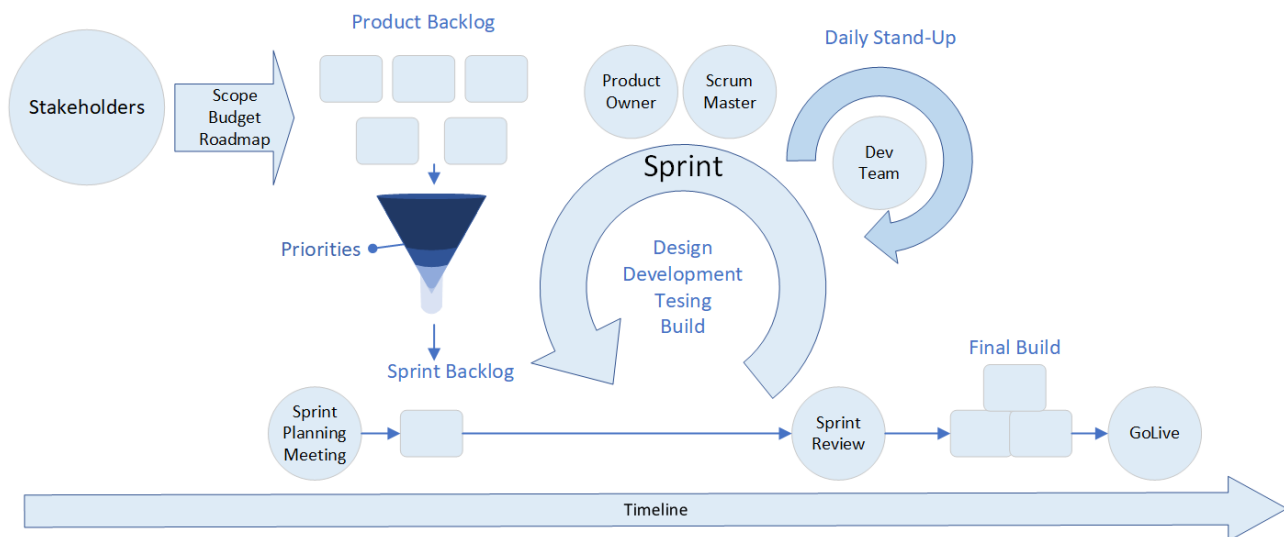


Figure 1 – Flow within an Agile (Scrum based) project management framework

Particular attention is given to mechanisms that allow for rapid adjustments to scope and requirements through close collaboration with stakeholders. The methodological framework includes a comparative review of established Agile approaches, such as Extreme Programming, Scrum or Crystal Methods, combined with traditional methodologies like Projects in Controlled Environments (PRINCE2) [7].

Primary data sources include documented case studies from various industries, focusing on project management dynamics in iterative and linear models. The study also references the guiding principles of the Agile Manifesto, which prioritize individuals and interactions over processes, functional outcomes over comprehensive documentation, and responsiveness to change over strict following pre-approved plans [7].

Quantitative and qualitative data are collected to measure key performance indicators, including project delivery quality, stakeholder satisfaction, and adaptability to changing requirements. Semi-structured interviews with project managers experienced in both Agile and traditional methods provide insights into organizational behavior and decision-making processes [7].

The study also evaluates the impact of team composition, emphasizing the role of empowered, cross-functional, and self-organizing teams in achieving project goals [8]. Research highlights the positive

influence of cross-functional teams (CFTs) on addressing diverse challenges. For instance, their effectiveness in innovation activities, such as new product development, is explored in a review [4]. Additionally, CFTs are noted for enhancing organizational resilience during potential operational disruptions. Several publications link CFTs to increased creativity, while their collaboration helps overcome interdepartmental fragmentation, establish unified information environments, and develop the organization's knowledge potential. Positive interpersonal effects within teams, including effective conflict resolution and improved resource management, are also documented [7].

Based on an analysis synthesizing theoretical foundations and empirical data, this study aims to identify not only contradictions and opportunities for integration between Agile and traditional methodologies but also the potential for creating a unified framework. The adaptability of Agile principles to contexts can be used beyond software development, although the main focus remains on software.

RESULTS AND DISCUSSION

Classical project management demonstrates effectiveness in highly structured environments, relying on a linear sequence of steps, fixed parameters, and detailed regulations, which contributes to stability but proves ineffective when rapid adaptation is required.

As modern project environments grow increasingly dynamic and uncertain, the hardness of traditional methodologies often proves insufficient. This shortcoming drives the need for more adaptive and iterative approaches, embodied in Agile principles.

Agile project management, with its emphasis on adaptability, iterative development, and continuous collaboration with stakeholders, challenges the linearity of traditional methods by viewing uncertainty as an inherent and inevitable characteristic of a project's lifecycle. This approach, however, introduces challenges in documentation, risk management, and integration into hierarchical organizational structures.

Combined schemes for example, Agile-Waterfall or ScrumBAN are aimed at synthesizing opposite logics, combining individual practices of an agile environment for example, sprints and standups with traditional staging, so a project can include a cascading phase of requirements collection and then move to an iterative execution model.

Consider the scenario illustrated in **Figure 2**, where project flow incorporates several project management frameworks during its execution. However, this approach is considered a simplified implementation, as different frameworks are not applied simultaneously to the same project phase.

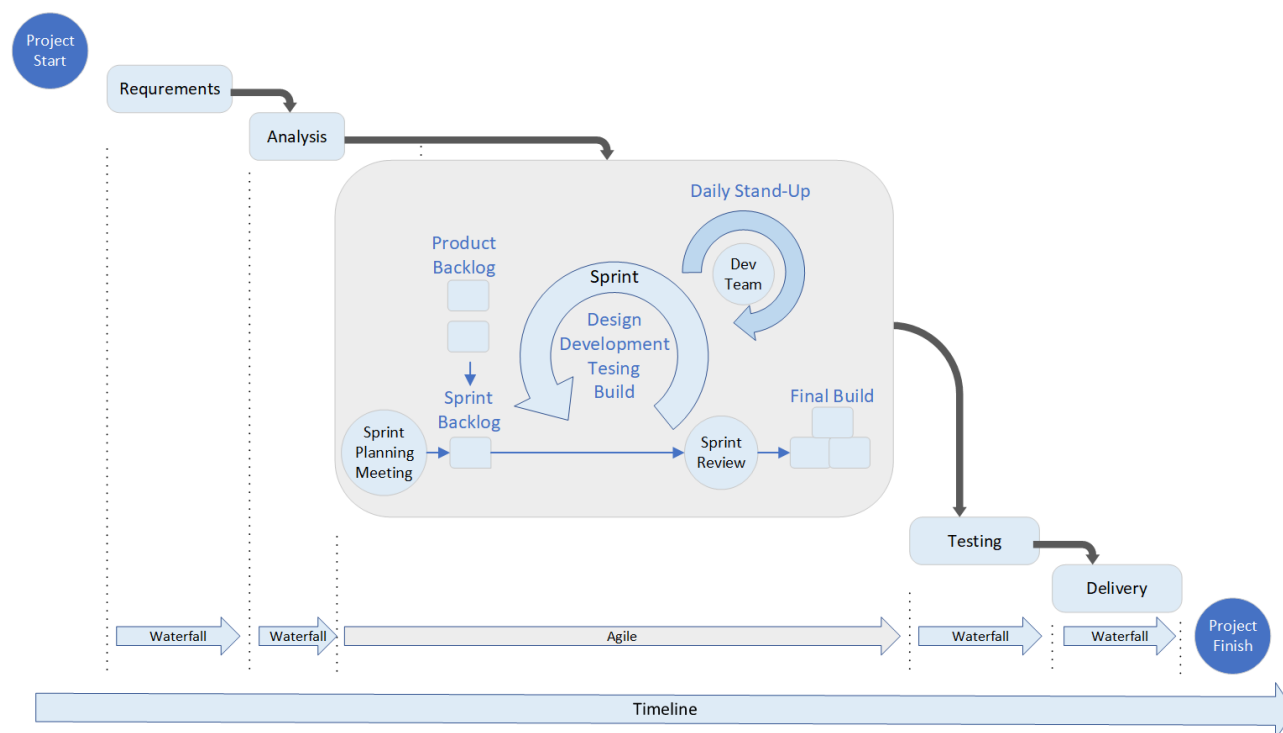


Figure 2 – Hybrid Project Management Framework

Such projects are integrated into the project execution processes within the broader organizational structures of their parent companies, creating an entanglement of interdependencies.. Despite the apparent complexity of these mechanisms, the number of widely adopted organizational structures remains surprisingly limited due to relatively minor differences in the fundamental principles across companies. It can be concluded that the primary challenge lies in creating and maintaining an optimal organizational structure that not only

strengthens project teams but also ensures seamless coordination and fosters a productive work environment [1].

Below, **Figure 3** illustrates an example of an organizational structure that adopts a highly diversified hybrid project management framework, requiring specialized skills and knowledge from involved project managers.

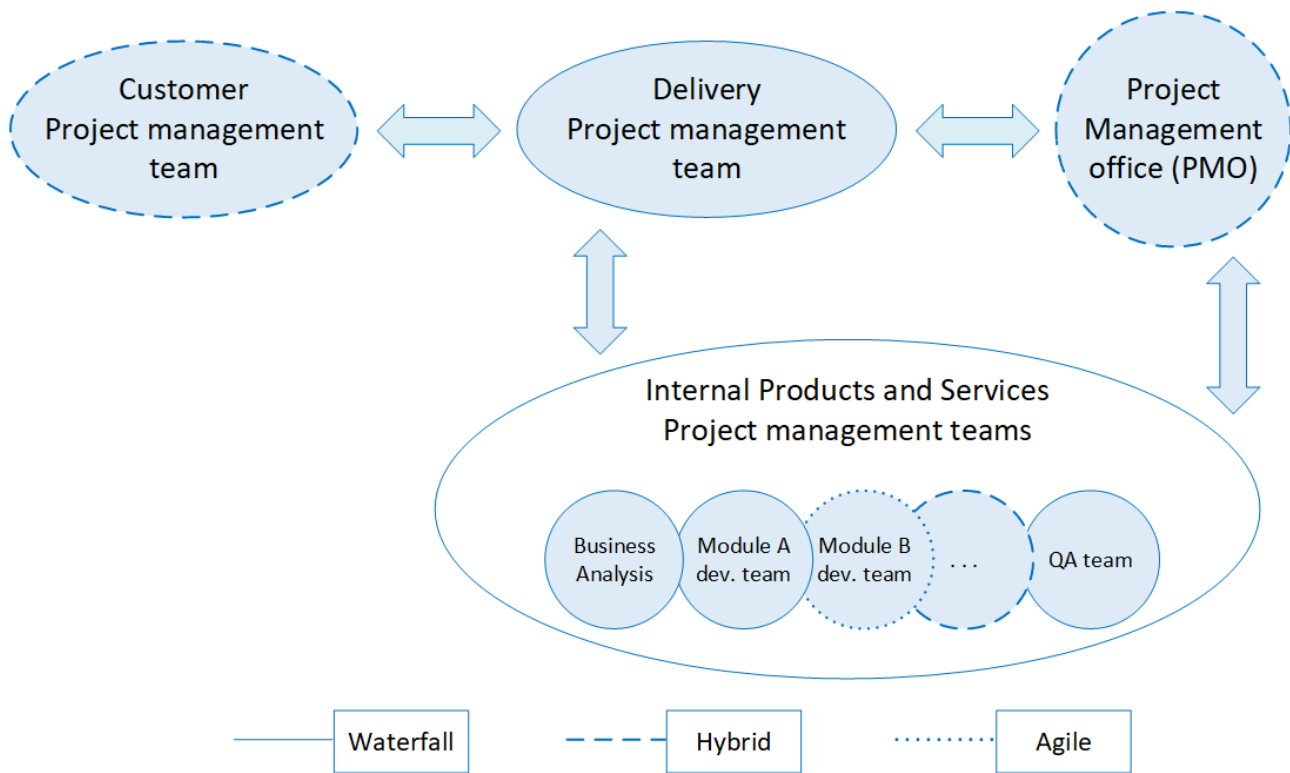


Figure 3 – Example of an Organizational Structure for a implementation project

The integration of flexible components into classical schemes goes beyond technical changes – it causes cultural reorientation, since self-organization, cross-functionality and customer co-creation in an agile environment contradict the control and formalism of classical models.

In this regard, organizations are required to implement:

- change management initiatives;
- educational programs focused on mixed competencies;
- review of role functions and success indicators.

Of particular importance is the work of interdisciplinary groups, whose versatility, problem-solving ability, and participation in knowledge exchange make them key mediators between methodological foundations.

Empirical evidence consistently indicates that well-implemented hybrid strategies outperform rigid models by criteria such as participant engagement, supply chain responsiveness, and ability to reconfigure, but success depends on meeting the conditions – what is applicable in the IT sector will be unproductive in construction or healthcare without appropriate adaptation. Figure 4 shows the comparative strengths and weaknesses of flexible, traditional, and mixed approaches.

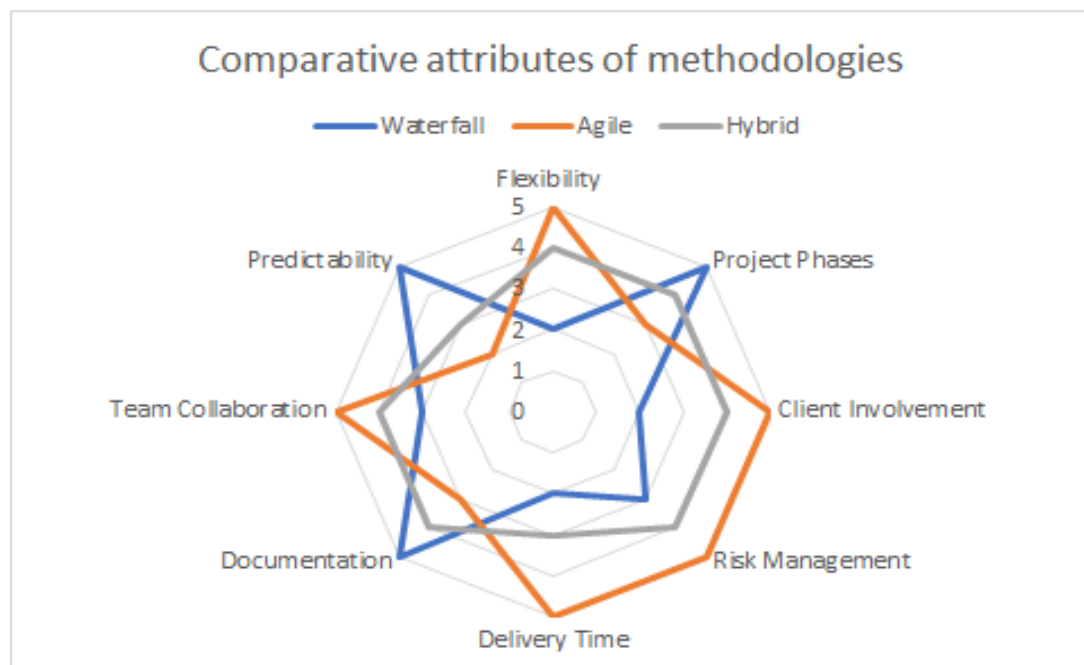


Figure 4 – Comparative attributes of methodologies

Agile, a methodology known for its dynamism, is highly adaptable, promotes intensive cooperation with clients, and encourages well-coordinated teamwork. However, its strengths are related to costs – predictability is reduced, risk management is poorly controlled, and documentation remains insufficient, which often leads to changes in important details. In contrast, Waterfall works predictably, adhering to a rigid step-by-step structure backed by careful documentation. However, such a strict approach limits customer engagement and stretches delivery times. Combining Agile and Waterfall, the hybrid methodology represents a combination of agile adaptability and Waterfall's disciplined structure.

CONCLUSION

The results of the study emphasize the need for such project management frameworks that reflect the complex and changing nature of the modern organizational environment: neither flexible nor traditional methods in isolation represent a complete solution, while thoughtful hybrid forms, supported by cultural settings and cross-functional interaction, open the way to sustainable management.

The transition to hybridization is accompanied by obstacles, from resistance to change and methodological uncertainty to the risks of blurring logic, but with strategic support, training, and managerial involvement, these barriers can be

overcome. Ultimately, the future of project management lies in the ability to adapt – not as an abstract ideal, but as a practical necessity that permeates the structure, culture, and daily actions of project teams.

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