

# Constructive Effect of Hybrid Project Management Methodologies on Success Rates of Projects

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**Abstract:** *The current developments in project management reveal the integration of Waterfall and Agile methodologies, a combination of formal and flexible systems of managing projects. This research investigates how hybrid methods can improve the project result and how implementers can achieve and overcome the difficulties encountered. This paper conducts an integrative literature review of the trends in the hybrid approach to project management and the effect it has on the success of projects. As one can observe, the benefits of hybrid methodologies include flexibility, adaptability, and better cooperation, whereas the drawbacks are seen in the difficulties of integrating both the bottom-up and top-down approaches and considering the vast range of stakeholders' expectations. The results show that hybrid approaches are preferred and, therefore, suitable to manage various and constantly changing project contexts and that there is a need to adopt specific solutions to guarantee the success of projects. This study's findings will interest project managers and organizations implementing hybrid methodologies in their projects by providing insight into tangible benefits and outlining areas for future research.*

**Keywords:** Hybrid Project Management, project success rates, agile methodologies, and traditional project management, constructive effect

## 1. Introduction

The integration of traditional and agile approaches in project management practices has been adopted to give rise to the hybrid form of project management practices. These methodologies apply the rigid frameworks adopted by the conventional methods, such as the Waterfall model while combining them with the flexible cycles of the Agile methodologies. When organizations are confronted with challenging projects compounded by uncertainties in the operating environment, hybrid methods have emerged as the dominant process to ensure that the best approach is sought to achieve maximum success. Analyzing hybrid digital project management methodologies' use and effectiveness on highlighted project success rates is crucial in this environment.

This research discusses the effectiveness of using hybrid approaches to improve project performance. Through the analysis of its implementation, obstacles, and effectiveness, our goal is to establish several significant findings that would be helpful for project managers and business organizations. Using a vast body of academic publications, research articles, case studies, and empirical evidence, the objective of this study is to gain a better understanding of hybrid integration and the impact it has on the levels of project success. Therefore, this investigation intends to conduct theoretical research on project management methodologies, providing practical recommendations and directions for further studies.

### Traditional Project Management:

It is significant to identify that the traditional approaches to project management rely on contingency planning, extensive control, and specification of the client's needs in advance if the environment is expected to be stable. It follows a linear pattern with less to no alteration in the course of its execution; its primary strength is the maintenance of structure and documentation to keep the project afloat from inception and running up to the end, through a considerable cycle without a

need for cyclical modifications (Ciric et al., 2019). This stemmed from previous project management history; however, its actual development began with Henry Gantt when he developed what is known today as the Gantt chart. It started growing in the 1950s with the advent of some techniques like PERT, CPM, and WBS. PMBOK, ICB, and PRINCE2 belong to the sophisticated traditional frameworks of project management, which offer detailed instructions, standards, and best practices applicable for implementing projects effectively and efficiently (Grebic, 2020). TPM depends heavily on the guidelines and process mentioned in the PMBOK, which has been revised several times, bringing in applicability across domains. As opposed to the more recent approaches like Agile, which are comparatively less prescriptive, TPM is a clearly defined set of processes that must be followed to avoid potential pitfalls (Masciadra, 2017).

### Agile Project Management:

Agile project management entails using flexibility and teamwork to suit evolving requirements to deliver value quickly. It focuses on the scientific method of fashioning a system through continual construction and testing of improved prototypes based on customer feedback (Karlesky & Vander Voord (2008). Considering the basis of understanding and applying information about the object, Juricek (2014) defines some principles of agile project management, including customer satisfaction and collaboration, an iterative approach, and change acceptance, which corresponds to its values. Moreover, Ciric et al. (2018) discuss that the use of agile methodologies applies to software development and has been introduced and applied to innovation of a new product. It discusses various advantages of utilizing agile project management, for example, better flexibility to changing market conditions, more significant possibility of innovation, and working with difficulties, which are the issues of team dynamics and the role and participation of stakeholders. These articles explicate the importance of adopting agile principles to project management activities,

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stressing that it is relevant to a wide range of professions and helpful in supporting innovation.

As we have established, agile project management strategies represent valuable and flexible models to meet the highlighted issues concerning project changes and to improve team performance. According to Rasnacic and Berzisa (2017), the main idea of how the strategy of effective agile project management can be developed is based on the methods of customizing the used approaches and applying them depending on the project's specific context. This goes a long way in supporting the fact that the concept of applicable agility does not work well with the fixed model approach and supports the idea of flexibility and customization between the different organizations. In the paper by Carneiro, Silva, and Alencar (2018), a case study demonstrates the usage of the Scrum agile methodology in the context of the business environment and WFM activities. They put much effort into applying Agile practice in the organization, including the explication of how Scrum effectively enhances performance on a project team level.

#### **Development and Rise of Hybrid Methodologies:**

Investigations into hybrid methodologies in project management and their progression over the recent years have been of significant interest. Bushuiev and Kozyr (2020) focus on the subject of new hybrid infrastructure project management methodologies in construction and development projects involving traditional and agile methodologies. In the study by Reiff and Schlegel (2022), the authors focus on a systematic literature review on hybrid project management, mainly noting that such an approach should incorporate elements of classical and agile methodologies. To reveal the strengths and limitations of such a framework, Papadakis and Tsironis (2020) conducted a systematic literature review of traditional, agile, and mixed project management methods to develop a theoretical framework that integrates both approaches. Taken together, these studies support the notion of the more frequent application of postmodern methodologies as an appropriate reaction to the complex and changing settings of modern projects where the merging of two approaches, classical and modern, is more effective.

Hybrid project management methodologies refer to integrating portions of different models depending on the needs of a project at hand. According to Mirzaei, Mabin, and Zwikael (2024), adapting hybrid methodologies to optimize project impact is crucial. Organizations can always design the best solution for handling different projects by combining ideas from several methodologies including Agile, Waterfall, and Lean. This level of customization makes the products unique and able to fit the ever-changing market needs, a feature admired in the current world economy. Similarly, Lasinska (2021) argues that IT hybrid approaches are most effective in specific contexts and where exactly transport projects involve rolling stock. Combining best practice project management practices and specific approaches to managing transport projects enhances personnel utilization and minimizes exposure to threats.

In their earlier study conducted in 2018, Fernandes et al. explored the dynamics of university-industry collaborative R&D, highlighting the viability and applicability of a PM

framework specially designed for such partnerships. This case scenario shows how the best of both worlds are incorporated in a hybrid model that enhances conventional project management structure with a graceful approach, due to the distinctive nature of research and development projects. To this end, the framework balances systematic planning and adaptive capacity in aspects like resource management, change facilitation, communication, and creativity. Its ability to facilitate the evaluation and management of the most dynamically changing requirements of projects when implementing the proposed synthesis aligns all the teams' efforts with the organization's strategic goals and objectives. By integrating both the closed and open forms of working, the hybrid approach reduces risks and thereby speeds up decision-making processes that ultimately enhance project outcomes in collaborative university-industry R&D (Fernandes et al., 2018).

#### **Advantages of Implementing Hybrid Project Management Methodologies:**

Integrating old and advanced project management methodologies aligns the favorable elements of both methods in the management of today's projects (Bagiu et al., 2020). Therefore, integrating the four aspects of both methodologies has the benefits of added flexibility and, at the same time, better structure and order (Grey, 2011). This quality gives teams the leeway to apply change strategies suitable to the nature needed for the specific project and react appropriately to changes and novelty (Bagiu et al., 2020). Furthermore, the integration of both hybrid approaches enhances satisfying cooperation and information sharing among the involved members of each team since hybrid frameworks provide more feedback loops and cycles of continuous improvement related to the agile method and offer more structure and definition related to the traditional project management methods (Grey, 2011). In the long run, incorporating the features from traditional and agile methodologies provides efficient and effective project delivery to safely and successfully navigate the ever-growing complex nature of the business world.

#### **Challenges of using Hybrid project management:**

Using both traditional and agile methods in project management offers a compelling solution but also has problems. These challenges come from the fact that tensions are always between two different methodologies, as pointed out by Papadakis and Tsironis in their 2020 research paper. How to effectively merge the formality of conventional project management techniques while managing scope and risks while embracing the fluidity and openness of agile frameworks remains a challenge. Sithambaram, Nasir, and Ahmad, 2021 discussed one of the complexities arising from the different beliefs and preferences of various project stakeholders who have experienced different project management paradigms.

## **2. Methodology**

#### **Research Design**

This research employs a systematic literature review methodology to review and integrate past research on the effects of an integrated approach in project management methodologies on project success. A systematic literature review offers a well-structured and detailed approach to

conducting the research and also analyzing the results of the research in light of the identified literature.

### Data Collection

This study's primary source of information shall comprise research articles printed in peer-reviewed social science journals and relevant books. Published articles in electronic databases such as Google Scholar were used to search for the terms and criteria proposed in this study. To ensure efficiency in the search and retrieval of materials, a search strategy that involved using keywords and Boolean operators was adopted. Thus, the goal of the search strategy was to cover as many sources as possible while preserving the focus on the research topic. Data synthesis required synthesizing and analyzing the data collected from several studies included in the review. To provide an understanding of how these methods are engineered and deployed, the themes, patterns, and trends published within academic journals were analyzed and integrated.

## 3. Analysis, Findings, and Discussion:

### Comparative Analysis of Traditional, Agile, and Hybrid Methodologies:

The literature review highlights certain features and consequences of traditional, Agile, and hybrid approaches to project management. Standard approaches, based on the principles of sequential planning and control, ensure predictability and order but need to be more vital in adapting to project conditions to some extent. In contrast, agile frameworks, which are based on aspects of collaborative work and iterative development, allow for rapid change adaptation. Agile methodologies introduce and refine flexibility and creativity but may need to improve rigidity and manageability.

Based on current trends, hybrid frameworks stand as an effective combination of the classical and new-generation methodologies with the intent of gaining the benefits of one while avoiding the drawbacks of the other. The advantages of such hybrid approaches are subject to the apparent fact that they contain more fluidity and control than their two pure counterparts but also provide the needed structure without relinquishing control entirely. This allows organizations to use this synthesis as a tool to adapt to different project situations they encounter, enhancing the performance of different projects in projective and volatile environments.

### Constructive effect of Hybrid Methodologies on the Success Rates of Projects:

Various studies have shown support for the fact that using a combination of different approaches to project management significantly improves the chances of the project's success. Importantly, mixed approaches also improve the work of projects because while receiving the benefits of Agile methodologies, in which specialists can freely adjust the work process and approach, they retain the framework of a traditional structure that helps to organize the work process. Hybrid approaches enable effective and efficient technology coordination and management, enabling teams to adapt and work effectively on different uncertainties and develop innovative solutions and ideas. A brief literature review has shown that hybrid project management is feasible in various

spheres, such as collaborative R&D with university and industrial partners and educational environments. That is why the hybrids provide an opportunity for the maximum use of the potential of using both classical and Agile methodologies for the efficient use of resources, improving communication with clients, and creating a culture of innovation. Based on the above outcomes, using a pluralistic approach is crucial for providing better outcomes and enhancing the efficiency of projects in the contemporary business world.

### Benefits and Challenges of Using Hybrid Project Management:

A review of the literature shows some advantages of using a hybrid approach to managing projects, among them being the following. These include flexibility, adaptability, collaboration, and innovation that would facilitate organizations to maneuver tactfully in today's challenging projects. Therefore, a blend of the two methodologies proves to be effective in that it incorporates the best features from both the conventional and the Agile approaches that would complete projects to their most optimal and successful standard.

But then again, coming to the hybrid project management also necessitates the following challenges. Challenges in striking the right balance between integrating different types of standardized working methods and understanding the importance of being flexible and capable of adapting entail specific challenges in managing the organization and the stakeholders. Selecting the most appropriate number and types of methodologies given the context of a particular project may also be difficult, especially if what is expected is an optimal mix and match of the methodologies for the particular project context: this will call for proper communication and good change management practices.

## 4. Future Directions and Recommendations

As can be seen, the use of hybrid project management methodologies points to an improvement in the probability of achieving the desired project outcomes, but more research needs to be conducted to duly evaluate the sustainability of these approaches as well as to determine how well they can be adopted across the various projects that may be encountered in organizational practice. Further research could analyze meta-level questions about how, better, the hybrid approaches can be applied to other industries and project structures. Other exciting areas include an investigation of the literature on the distinct experiences of different stakeholders in using hybrid methodologies or a study about effective practices related to adopting and managing hybrid methodologies in organizations.

Practitioners must invest in training and development initiatives to establish competency in hybrid project management best practices. Organizations should ensure an open line of communication and a shared understanding of the implementation goals. Thus, there is a need to ensure inter- and intra-organizational learning and sharing. Thus, the cost and benefit of hybrid approaches based on combining the best practices of traditional and Agile project management frameworks must be acknowledged to achieve tremendous success in the continually competitive business environment.

## 5. Conclusion

In conclusion, the evolution of project management represents the natural growth of project management methodologies in response to the complex environment, which cannot be satisfied with the help of either traditional or Agile methods alone without their combination. Due to the nature of modern projects and their uncertainty, risks, and interdependencies, there is a need for an effective synergy between the structural approaches of the traditional approach and the degree of freedom in the Agile approach. In this systematic literature review, several contradicting facts emerging from the human resource management literature have been illuminated, thus underlining the growing adoption of hybrid methodologies as a strategic action response to the different requirements and obstacles in managing projects. On the one hand, there are numerous advantages of hybrid approaches where flexibility, adaptation, and collaboration are widely discussed; on the other hand, there are more problems highlighted by the potential differences in the expectations of the critical stakeholders and the identification of further manners of combining the methodologies. Despite that, case and empirical evidence prove the successful capacities of hybrid project management in improving project results in various fields, from university-industry cooperation in R&D to the educational setting. Therefore, future studies and empirical efforts in developing integrated hybrid frameworks will remain crucial to leveraging project management to achieve otherwise unattainable objectives in the contemporary, fast-paced business environment.

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