

Hybrid Approach to Project Management: Still Have a Long Way to Go

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Abstract. Project success has been inevitably influenced by project management approaches. Researchers and project managers have studied and adopted three different approaches, namely traditional, agile and hybrid, to explore the most suitable approach for the development and success of projects. In this study, the literature research method has been applied. Comparison of the performance, which were provided by previous studies, among three approaches in the fields of technology-based products and services, education and a wide range of international cross-industry projects have been made in the article to probe into the most effective project management approach. Even if the case studies from the literature review were mainly based on some certain countries and regions, which may affect the correctness of the universality of the conclusion, it is noticeable that although more reliable data is needed, currently hybrid approach has been regarded as the most favorable one with both advantages from traditional and agile approaches.

Keywords: Project Management, Hybrid Approach, Big Data.

1. Introduction

Researchers and practitioners have always been exploring various essential factors influencing the success of projects. Among the project management literature, elements such as top management support [1-2], goal clarity [3-4], and project complexity [5-6] had aroused the wide interest of scholars and had been explored [7]. In addition to the above factors, in order to cope with various types of projects with different organizational structures, specific processes, customer contract requirements, and project characteristics, scholars are also constantly applying and practicing traditional, agile and hybrid project management to a variety of different fields.

This research analyses and contrasts the efficacy of three distinct project management strategies, namely traditional, agile, and hybrid, in the context of two significant industries, namely the creation of technology-based products and services [8], the education sector [9], as well as a diverse array of international cross-sector projects [7], to explore the most effective project management methods toward project success.

The high speed of making managerial decisions and the speed of project implementation are the two major indicators that have been regarded as preconditions and symbols of a successful project [9]. It is worth noting that, due to the factors of different countries or regions, as well as different industries, codes of conduct, cultural differences, practice norms and a series of influences will be inevitably brought to the reality, making project management in the process of concrete implementation naturally show some differences of specific industry characteristics toward management results.

This study is an analysis of the literature for empirical test studies examining the impact of some other project management approaches. Based on these few but significant researches, it is concluded that hybrid project management is currently emerging, efficient and common for projects. At the same time, this article also compares the performances of different project management approaches to explore more potential problems.

This paper consists of four parts. First, in the introduction section, the article describes the general context of project management approach research. Besides, the introduction part also explains the necessity and rationality of the literature analysis method adopted in the research. Second, in the section of the literature review, the author will provide information on the context of the three project

management approaches and the current research on the successful performance of hybrid project management approaches in different fields. Subsequently, in the discussion and recommendation section, the performance comparison of different management approaches in various fields and the possible reasons for management failure will be given. Finally, the article will provide a certain space for the summary, and at the same time, give the conclusion.

2. Analysis of Hybrid Approach

2.1. Traditional, Agile, and Hybrid Approaches

According to Baskerville, Conforto, and Niederman, several major approaches have been applied in managing projects [10-12]. Among these, the traditional and agile approaches have a solid foundation in both academic research and professional practise, while the hybrid approach is just starting to gain traction. [7].

The management process in traditional approaches to project management can generate use of valid strategies, procedures, and methods. These strategies and procedures have already been developed over the course of several decades and are utilised in the majority of fields [13]. Traditional methods of project management are becoming increasingly inappropriate in certain fields as a result of the proliferation of innovative technologies. One of these fields is software development [8]. As a result, a series of contemporary practises for project management have been implemented in order to address the drawbacks of traditional approaches. In this context, more sophisticated technologies and tools need to be used for project management in complex environments [14].

Agile project management methods have been widely accepted over the past 20 years [10,15-16]. However, these agile practises and methodologies can be unified by a shared conceptual underpinning, which we refer to as an agile approach. Other agile methods and methodologies have also been offered alongside agile practises. It is essential for these foundations to have the ability to respond to shifting conditions and to break down their work into a number of iterations as the project progresses. [7]. The fundamental project outcomes are mapped out, starting points are determined, and an adaptive method is used to perform periodic reviews and make adjustments to the outcomes of the project. Additional crucial aspects of an agile strategy include the delegation of responsibility to team members and the involvement of project stakeholders, most notably clients and sponsors, in both formal and informal interactions surrounding the project. [7]. Agile procedures can have a favorable impact on several indicators of job satisfaction, according to Tripp et al. (2016) who studied agile and traditional approaches [17]. Agile methodologies are currently widely used, have been shown to increase project outcomes [11], and are spreading outside the software development sector [12].

Academics and practitioners have commented on a growing third strategy that mixes traditional and agile methods in a variety of literary fields. At most fundamental level, a hybrid project management strategy is characterised by the blending of methodologies and practises derived from a variety of different project management approaches. In this particular scenario, combining agile and conventional methods is something that is being thought about. We will refer to this combination as the hybrid strategy throughout the entirety of this article. The literature on software engineering, information systems, and practitioner practises have all discussed the combination of agile and traditional approaches and practises to date [18], but the effects of this hybrid approach on performance have only sporadically been empirically investigated [7]. The application of a hybrid project management approach can make it possible to balance the advantages and disadvantages of the traditional and agile approaches and combine their strengths [9].

2.2. Hybrid Approaches to Technology-Based Products and Services

The study done by Copola Azenha and other researchers used a literature review and numerous case studies as research techniques to examine the characteristics, benefits, and drawbacks of hybrid project management systems used by companies that create technology-based goods and services. According to the findings, hybrid approaches to project management are currently essential for

businesses because of the need to deal with a variety of organisational cultures, specific procedures, contractual obligations to customers, and project specifications. A comprehensive list of the traits of hybrid project management approaches was also produced as a result of this study [8].

The study's findings also demonstrated the practical traits of hybrid project management systems, which were examined in the context of earlier findings from the literature review, taking into account their similarities, contrasts, and the most important benefits and drawbacks. Regarding contributions to practice management, the study demonstrated the tendency of hybridizing project management in complex projects by combining agile and traditional approaches and tools in two discrete moments and adhering to the earlier models noted in the literature [19-20]. Case studies, however, also demonstrated the importance of project management and its capacity to adapt methods and resources to maximize output from various development teams. The companies that were the focus of the case study developed essential project management strategies that supported development processes, specific processes of product and service creation, particular organisational contexts, contractual requirements, large project sizes, and technical complexity.

These insights are helpful for companies testing out hybrid project management strategies. Convergent findings from case studies are essential for designing the future study. Future case studies can specifically replicate research procedures in different circumstances to confirm the findings made here and to find additional important hybrid project management characteristics.

In addition, a survey that includes a sizeable sample of companies can be carried out in order to evaluate the characteristics that were discovered in this investigation (the original hypothesis) and to discover additional benefits and drawbacks that result from using a large sample. A model for choosing the best project management approach for a given environment can be developed by using the characteristics of hybrid management that have been identified in current studies exploring criteria for approach selection.

Their research had some drawbacks, including the fact that all of the enterprises were Brazilian-based. The conclusions cannot be applied to other situations where the dynamics of innovation are fundamentally different, even though they can be contextually generalized. Second, case studies as a research method capture a particular moment, which sometimes requires evaluation to ensure that presumptions and results are still valid. This is a drawback of the research method. The study recommends additional concurrent efforts under a variety of conditions in order to guarantee that the outcomes that were obtained are consistent with one another.

2.3. Hybrid Approaches to Education

Igorevna and Sergeevna hold the opinion that the rapid development and adoption of Industry 4.0 concepts have an impact on the advancement of all facets of human endeavor, but education is particularly affected [9]. "A way to become intelligent individuals for the digital economy." As a result, Russia will have a cutting-edge infrastructure for the advancement of the social concept. In their essay, it is suggested that project management be utilized as a tool for the establishment and intelligent growth of a university.

They applied a hybrid project management strategy that combines the benefits of traditional and adaptable technology. Consideration is given to the methodological underpinnings and informational architecture of a smart university's project management, which will streamline and hasten the management decision-making process and increase visibility for the project team, project office, and university administration.

In order to manage a group of projects for the establishment and growth of an intellectual university, conceptual development of project management is proposed. This development can be applied to the activities of project offices. This hybrid project management strategy for the conception and intellectual growth of the institution is flexible. As a useful pillar for a hybrid strategy that makes use of the resources available from an academic university's information and financial infrastructure. Based on the Bauman Moscow State Technical University and Togliatti State University as examples,

the experience of project management in the establishment and development of smart is taken into consideration.

Based on the researchers' concept, universities that can transition into smart universities, relying on cutting-edge project management solutions, will currently be the most competitive. Following research into a hybrid approach to project management, which combines the benefits of traditional and adaptable technologies, it was determined that using a hybrid approach to project management is the best option for the establishment of smart universities. By employing a hybrid method, it will be possible to balance the drawbacks of both traditional and flexible systems and combine their benefits. It is suggested that project offices use an adaptive conceptual model of a hybrid approach to project management to coordinate several initiatives for the formation and growth of a smart university.

It is suggested to employ a hybrid approach to project management for building an organizational and information infrastructure for supporting a smart university as practical support for a hybrid approach to project management. Additionally, it can be assumed that to develop a smart university, under the guidance of a hybrid approach, it will be necessary to change the university's organizational structure and move toward project and process management, build the university's smart infrastructure, and ensure that Industry 4.0 principles are applied to the educational system.

2.4. Hybrid Approaches to other International Cross-Industry Projects

The study of Gemino, Reich and Serrador also took into account three project management methodologies: classic, agile, and hybrid. 52% of initiatives, according to the findings of an international study that included 477 cross-industry projects, might be characterized as hybrid approaches. Significant explanatory power was found in a regression study using various outcome measures. Analysis revealed that hybrid and agile techniques, compared to traditional ways, considerably increased stakeholder success while maintaining the same budget, time, scope, and quality outcomes. It was discovered that hybrid strategies were equally effective as totally agile strategies. Results support practitioners' choices to integrate agile and traditional approaches, and they point to hybrid as a top project management strategy [7].

The implications of the findings were discussed, as well as the potential future of the hybrid approach to project management. According to the research, traditional, hybrid, and agile projects all do similarly well on the three commonly used success metrics of scope, budget, and quality. This is an intriguing discovery since it implies that projects that largely or partially employ agile principles may not necessarily perform worse than other projects in terms of scope, price, time, or in terms of quality. This finding could help practitioners who worry that adopting agile methods will be more expensive, take longer, or result in scope expansion [21]. According to these findings, utilising agile concepts and practises does not have an appreciable negative impact on the outcomes of traditional projects.

Another finding was that agile and hybrid approaches performed significantly better than traditional approaches when compared on the basis of the stakeholder success metric. The fact that the project strategy can have an effect on the success of stakeholders is significant for the following reason: according to researchers, the outcomes of stakeholders, such as the success of the product, the business, and the strategy, are key project goals that extend beyond the typical outcome measurements. According to the findings of their research, an accurate measurement of the success of stakeholders requires taking into account not only the satisfaction of the team but also that of the client and the sponsor. The constant exchange of information between these three parties is essential to the agile methodology, and it can have a positive impact on the outcome of a project if it is done correctly [7]. An agile project should not have any significant discrepancies between what was intended and what was delivered, and stakeholders should have accepted the result of the project. Employing a conventional strategy, which calls for less communication at all stages, can result in surprises that irritate project sponsors and teams at a later stage. As a result, Gemino and the team anticipate agile to do better on this criterion than traditional.

In addition, the results of this study show that a hybrid project management method may achieve the same budget, time, scope, and quality results as traditional approaches while also achieving the same level of stakeholder success as agile approaches. In conclusion, their research in both the quantitative and qualitative fields, as well as standards organizations, indicates that project managers will frequently use hybrid methodologies. The factors that encourage the use of hybrid techniques are not expected to change, and the researchers anticipate that they will continue to play a considerable role in project management shortly, if not become the norm.

3. Discussion

Researchers from different fields provide information that it is not difficult to see that the hybrid approach to project management is widely favored by project managers. In fact, scholars seem to hold similar positive opinions about the hybrid management model, which indicates that the hybrid approach has not been applied widely, making it hard to predict whether the approach is an excellent first choice. This is mainly because different industries and projects may have an impact on the experimental results.

According to Igorevna and Sergeevna, by employing a hybrid approach, it will be possible to combine the benefits of traditional and agile approaches while balancing their drawbacks. The traditional approach has the benefit of requiring both the customer and the project manager to deliberate on the desired outcome before the project even begins. Early involvement gives project management stability, and planning speeds up project execution. Additionally, it implies the definition and monitoring of indicators during the project, both of which are essential for any initiative. Agile methodology has the opposite benefits and drawbacks of the traditional methods. Utilizing agile project management enables you to adjust to the end product's user and any newly developing client requirements. As a result of a comprehensive evaluation after each work cycle, there are fewer flaws in the generated product.

As for the impacts of the hybrid approach on international cross-industry projects, because the number of research initiatives has increased in recent years, it has becoming more and harder to guarantee adequate and suitable participation in surveys. Gemino and their colleagues only included some of the independent factors that have been reported to keep the survey short. The questions were able to ascertain the existence of several approaches. Still, they were unable to ascertain the why and how factors that project managers took into account when managing their projects. It will take a qualitative study with several cases looked at to explore project management methodologies in greater detail. It might be beneficial for researchers to follow a project in real time so that they can observe how practises and methods are gradually incorporated after being developed initially.

When relying on just one source of information, there is always the possibility that various performance metrics will share a correlation with one another (budget and time, scope and quality, and stakeholder success). It is possible for a project manager to look back on an earlier project and, upon recalling that the project was completed successfully, report comparable results for all success indicators. Researchers used reliable survey design strategies and high-quality informants to collect reliable data. One promising finding was that respondents distinguished well between the many aspects of project success. With a closer look at the factors emphasized in a critical analysis of industrial surveys on agile techniques, the survey instrument may have been enhanced. For upcoming scholars interested in agile/hybrid methodologies, it seems that researchers are more likely to recommend this resource. Instead of focusing on the organization or industry in the area, the question set was project-specific. The majority of the projects were finished in North America, which similarly restricted the global impact. In other fields, the results might have varied.

The same concern also appears in the research of hybrid approaches to technology-based products and services. In actuality, all of the companies are based in Brazil. Although they can be generalized in context, these conclusions cannot be applied to other circumstances where innovation dynamics are fundamentally different. To make sure that the presumptions and results are still true, case studies

are used as a research technique to record a particular moment. Their study also requires other parallel attempts in various settings to verify consistency between the outcomes produced.

4. Conclusions

The hybrid approach to project management has been regarded as an effective method that combines the advantages of both the traditional approach and agile approach, balancing, at the same time, the disadvantages of the two. The performance given by the hybrid approach in the field of technology-based products and services, education, and a wide range of international cross-industry projects showed the attitude mentioned above. However, due to the limited empirical case studies, researchers still have to explore a hybrid approach with more reliable data in greater detail.

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