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# **Between Success and Failure: Integrating Agile Project Management Methods with PRINCE2 Framework for the Enhanced Management of Imperfect Projects**

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**Abstract.** As most of the project fail in the developing world, a proper approach or framework is needed that can reduce the chances of project failure but increase the likelihood of success. One approach that can be used is integrating agile methodology and PRINCE2 framework, which have the benefits of minimizing project risks, aligning costs and time with the outcome, and guaranteeing the quality of the project results. This paper discusses a framework to manage imperfect projects properly.

**Keywords.** projects, success, failure, project management, PRINCE2 framework

## **Introduction**

### **Background**

All stakeholders in any project are concerned with the performance of the project (Magagan & Ngugi, 2020). Projects can either fail or succeed. For instance, there is a high project failure rate in many developed and developing countries (Magagan & Ngugi, 2020). Most projects start well, with good intentions but face obstacles along the way that lead to their failure. The failure of projects to deliver their promised goals is because of various reasons. These reasons include a lack of clear goals, wrong evaluation measures, fuzzy role expectations, and internal power dynamics (Van Marrewijk et al., 2016). Although project failures, deaths, breakdowns, and unrealized ventures are viewed as project imperfections, they provide an opportunity for project stakeholders to improvise, learn, and experiment (Stjerne & Svejenova, 2016).

Project managers are usually in charge of managing projects, and thus, they are responsible for customizing project management methods (Hacioglu, 2017). However, project managers need to be careful with the constraints/boundaries of their current policy in order to make appropriate decisions for every project they handle, as this will determine whether the project will fail or succeed (Hacioglu, 2017). Project success is a good thing as it means that the shareholders in the project will be happy with the project outcome. Contrary to this, when the project fails or appears to be failing, the shareholders in the project need to show concern and seek appropriate countermeasures to prevent the project from failing. But, in what ways can the project shareholders or the organization at large learn from a project that is about to fail

or the one that has failed completely? And does every shareholder need to learn from this by themselves? The appropriate answer is that more studies, including serious and theory-informed empirical research, need to be undertaken to understand how the near misses and total project failures would make us learn to avoid complete failures in imperfect projects. Therefore, using the lessons from failures, it will be possible to come up with the necessary solutions to prevent the project from failing in the future. Therefore, project managers need to develop imperfect project management thinking and develop the appropriate solutions after learning from the near project failures or complete failures of projects.

### **Problem statement**

Project management is viewed as part of a competitive strategy for many project-based organizations, and it acts as a strategic competency for organizations to link project outcomes with business goals (Nyakundi, 2015; Project Management Institute, 2014). When projects are successfully implemented, business entities are able to fully realize the set business objectives such as profitability and growth. Organizations need to execute effective project management processes on the appropriate projects to align with organizational strategy (Nyakundi, 2015). Traditionally, project managers would focus on meeting requirements within the scheduled time and set budget. However, in contemporary project management practices, realizing business results by following multiple criteria is key. For a project to be considered as successful, it has to satisfy the completion and satisfaction criteria (Nyakundi, 2015). The completion success criteria are determined by time, cost, and scope, while satisfaction is determined by the fulfillment of the success criteria or failure to do so. Project success is also determined by the delivery process and the perception of the value of the delivered outcome (Nyakundi, 2015).

During project management, many factors, as already mentioned above, play a role in the success or failure of a project. As the majority of projects fail, it is necessary to acknowledge that there is no way to perfectly manage any project (De-Oliveira & Rabechini Jr, 2019). Thus, imperfect project management thinking should be considered when executing projects (Cha et al., 2018). More importantly, one key question in determining whether a project will fail or succeed is: What practices will produce better/competitive or worse/poor project results? Some of the critical factors that might cause a project to fail include not meeting the demands of clients and unseen risk factors (Anantatmula & Rad, 2018). It is, therefore, necessary to have in place a unified and standard process or model that can be used to improve the planning process activities and reduce the efforts needed to attain project goals. Having a unified model ensures the development of an integrative view concentrating on attaining the project's main goals. As a research gap, studies have failed to clearly identify the practices that influence project success or failure as most of the researchers like San-Cristóbal et al. (2018) have focused on project management in general or a single aspect of the practices. This research, therefore, seeks to explore how project managers can learn to integrate the flexible and responsive agile methodologies into PRINCE2 framework to manage imperfect projects to attain success and minimize failure.

### ***Reasons why there are no solutions or why other solutions are inferior***

Successful projects are usually a product of user involvement, proper planning, executive management support, realistic expectations, clear statement of requirements, among other things. However, projects can fail for many reasons: a lack of planning, inadequate resources, lack of executive support, technical incompetence, lack of user input, incomplete requirements and specifications, changing user requirements and specifications, unrealistic

expectations, among other reasons. Relying on traditional methods such as the waterfall method in the management of projects is also most likely to contribute to project failures as some of these methods are rigid and don't consider many factors that contribute to the success or failure of projects.

It is widely accepted that project success is highly determined by the effective management of risks. The aim of every project is to succeed by meeting its objectives, but many projects are most likely to face some things that were not included in the plan that will affect the project in different ways (Hillson, 2014). If such arising factors are not managed properly, they could affect the project in multiple ways and jeopardize the chances of the project succeeding. Having the ability to scan the future and identify the factors that affect the performance of projects in advance makes it possible for the project shareholders to pre-plan, prepare, and position themselves to be ready for the challenges if they were to occur (Hillson, 2014). Effective action can therefore be taken in order to influence whether the factors will occur hence changing their potential impact on the project.

According to Nyakundi (2015), a significant relationship exists between project management processes and project outcomes. Most projects require efficient and effective processes to guarantee the end user's satisfaction, and the majority fail because they don't follow such processes. Implementing the best practices that would most likely lead to project success means that efficient and effective project management processes would be followed.

### ***Reasons why the proposed solution is worth considering and why it is superior***

With its iterative and incremental nature, agile project management can define, plan, manage, and test project tasks iteratively, making continuous collaboration an essential aspect of project team members and project stakeholders (Hacioglu, 2017). PRINCE2 (PProjects IN Controlled Environments) is a process-based approach for managing projects and the de facto standard applied by the UK government and widely practiced globally, especially across Europe (ILX Group, 2022). Considering the strengths offered by the agile and PRINCE2 project management frameworks, integrating the two would be more effective at managing imperfect projects as compared to traditional methods such as the waterfall method. More importantly, combining agile methodologies with the PRINCE2 framework will be beneficial as is adaptable and provides an excellent introduction to agile (Skogmar, 2015).

### **Research objective, Questions, and Paper Outline**

The main goal of this research is to integrate agile project management methods and PRINCE2 framework to ensure the improved management of imperfect projects. This paper seeks to meet the following research objectives:

- To evaluate why imperfect projects are common practice;
- To determine the influence of effective project management on project outcome;
- To examine how agile project management integrated with the PRINCE2 framework impacts the project outcome.

The paper seeks to answer the following research questions:

- Why are imperfect projects a common practice?
- What is the influence of effective project management on project outcome?
- How would the PRINCE2 framework integrated with agile project management as best practice impact the outcome of projects?

In the next sections of the paper, a literature review of the topic will be conducted, and thus previous studies on imperfect projects as common practice and studies on factors that contribute to project success or failure will be explored and synthesized. Understanding the relationship between the common practices and literature of project management is vital in determining the direction that the research will take. The literature review will discuss efforts detailed by other scholars to minimize project failure and increase success chances and why some of them are not very effective, which ones are relevant to the proposed solution, and why they aren't as good as the proposed solution. The paper will then discuss how the proposed solution can be implemented and how it will work. The solution is then taken through evaluation, and this section will discuss how the solution will be tested. The performance of the proposed solution will be discussed compared to other solutions, and the reasons why the proposed solution is preferred will be given. Finally, the paper will conclude by summarizing its contents and recommending what is to be considered for the future.

### **Literature Review**

In project management literature, there are numerous success and failure factors, and there is no general agreement on the matter, which is highly dependable on the perspective of the observer (Montequin et al., 2016). There are multiple efforts to solve the problem of completing and satisfying project criteria. According to Nyakundi (2015), successful projects have to satisfy completion and satisfaction criteria determined through costs, scope, quality, utility, and operation. Nyakundi (2015) also argues that project success is determined by the delivery process and the perception of the value of the project results. It is therefore important to understand that there are multiple drivers of success or failure in any project that are valuable because they allow project teams to avoid costly errors (Choma & Bhat, 2010). Choma & Bhat (2010) explain that understanding the factors responsible for project success or failure allows businesses to execute best practices that drive project success, increasing the likelihood of obtaining competitive and lasting results. On the other hand, a failed project is one whose outcomes do not align with the set objectives (Köhler, 2018). Also, a failed project is one that fails to deliver on the plans on time and within the set budget.

The best projects can be classified by analyzing how they meet certain criteria. For instance, a project could be rated best if the total project costs are more than 10 percent lower than the industry average of similar projects and if the execution time or the overall cycle time was faster than or equal to the industry average (Choma & Bhat, 2010). The safety performance should also involve no fatalities, and there have to be no serious operational problems in the first 12 months of the project's operation (Choma & Bhat, 2010). On the other hand, the worst projects could be classified as those with a total cost of 20 percent or more higher than the industry average of similar projects and whose execution duration is 20 percent or more slower than the industry average (Choma & Bhat, 2010).

In the investigations conducted by the IPA, it was observed that the best projects in comparison with the industry average were 18 percent lower in cost, 8 percent faster in cycle time, and their execution was 10 percent faster (Choma & Bhat, 2010). On the other hand, the worst projects were on average 42 percent higher in cost, 49 percent slower in cycle time, and 29 percent slower in execution (Choma & Bhat, 2010). Taherdoost and Keshavarzsaleh (2015) expounded that project failure could be a result of failing to meet the approved schedule, failing to meet the project objectives, or even failing to provide the expected project scope. Furthermore, project failure could also result from correspondence failure, interaction failure, process failure, and expectation failure (Taherdoost & Keshavarzsaleh, 2015).

Other literature has classified project failures as organizational based, process, people, or technical based (Taherdoost & Keshavarzsaleh, 2015). In an empirical study, it was observed that similar to organizational factors, the project managers' managerial skills, the commitment of team members and their technical experience, and environmental factors contribute to the failure or success of a project, although the criticality of these factors differs between several industries (Taherdoost & Keshavarzsaleh, 2015). Theoretically, when there are competent and well-coordinated project managers, project team, appropriate usage of project management resources, adequate organizational culture, atmosphere, structure, and competence, there is a high chance for project management success, which translates to project success (Venczel et al., 2021; Taherdoost, H., & Keshavarzsaleh, 2016). Research suggests that project and organizational success is highly dependent on how effectively success is managed as part of the projects (Venczel et al., 2021). According to the views put forward by Ceil (2018), value creation plays a pivotal role in the performance and outcome of projects. Also, there are project risks that can result in positive effects leading to a project's success or negative effects, leading to the failure of the project (Hillson, 2014). There different project management methodologies that are used in project management, and they include Agile, PMBOK, PRINCE2, among others. The primary difference between PRINCE2 and agile management methods is that PRINCE2 concentrates on conceptualizing the necessary products for protecting business needs, whereas agile methodologies concentrate in completing the goods efficiently, delivering more products as work progresses (Esteki et al., 2020). On the other hand, PRINCE2 differs from PMBOK in that PRINCE2 is a defined method with responsibilities and deliverables, while PMBOK is a collection of good project management principles. PRINCE2 is a project management approach that's mainly used by the government and multinational organizations. It implements project management via four pillars: Principles, Themes, Processes, and Adaptation PRINCE2 (Vaničková, 2017). The principles point to the philosophical aspects of the project that are realized through the processes at the start, during the implementation, and at the end of the project (Vaničková, 2017). This paper proposes to manage imperfect projects using a combination of the agile and PRINCE2 frameworks. The combination of agile and PRINCE2 framework is a viable option since the combined approach integrates the suppleness and responsiveness of agile with the definitive governance of PRINCE2. Testing the performance of the combined approach will involve the evaluation of how the approach has fulfilled the pre-determined outcomes.

### **Implementation of PRINCE2 and Agile Methods**

Using an integration of agile methodology like Scrum (which is the one selected for this research) and PRINCE2 in managing imperfect projects would reduce the chances of project failures but increase the likelihood of project success (Yurchuk, 2021). This is supported by the combination of the advantages offered by agile methodology with those of PRINCE2. For instance, such integration would make it possible to modify the project in iterations to cater to any arising issues iteratively and properly manage project risks using the standardized principles offered by PRINCE2.

### **Evaluation of the adopted framework**

The solution of integrating PRINCE2 and agile methodology would be tested by overseeing whether imperfect projects are properly managed and end up successful. For instance, some of the things that would be tested are whether PRINCE2 was able to effectively reduce project risks and whether it leveraged previous experiences to avoid project failures or

errors. The predetermined cost and time for agile methodology would be checked to see whether they align with a successful project outcome. The implemented solution is better than traditional approaches to project management such as waterfall and PMBOK because of the advantages they offer, including proper management of risks, effective use of cost and time, and guaranteeing the quality of the project outcome. The theoretical contribution of the data that informs this literature review is that the combination of two flexible methods will increase the chances for a project's success. However, it is vital that the individuals integrating the approaches follow appropriate guidelines to prevent instances of pre-mature failure.

### **Discussion**

As a best practice, integrating the PRINCE2 framework with flexible and agile methodologies when managing projects would minimize the probability of failure and increase the likeliness of success (Hacioglu, 2017). Another study spearheaded by Islam and Evans (2020) revealed that the PRINCE2 methodology demonstrated success in determining the performance of software development projects. From a similar perspective, Akhmetshin et al. (2019) indicated that the PRINCE2 approach enhanced the performance of entrepreneurship education projects. From a different perspective, Hayat et al. (2019) praised the scrum methodology for influencing project scope management of a software project. Also, Ionel (2019) argued that the scrum methodology has demonstrated immense success in the project management domain.

It is proposed that the best solution to manage imperfect projects so as to increase their chances of success and minimize the likelihood of failure is to integrate the agile project management methodology with the PRINCE2 framework. An Agile methodology is an adaptation approach in which project planning is based on the already existing product/project features, aiming to grow and increase value at every stage (Werewka et al., 2010). Agile methodologies allow and expect changes to be implemented, assuming that project teams are able to realize product/project features; thus, they possess the required knowledge necessary for completing the project (Werewka et al., 2010). Scrum is the most popular methodology, while PRINCE2 is one of the most popular classical methodologies. Agile methodologies try to align the project outcome with the predetermined cost and time of the project (Werewka et al., 2010). Some of the benefits of the agile methodology include communication and coordination, rapid and effective production, greater teamwork (Werewka et al., 2010).

As a project management method, PRINCE2 supports the quality of the product/feature/service under development. The PRINCE2 framework application is based on the experience of professional project managers, and some of its advantages include usability, the definition of project responsibility, and reuse in project management with an emphasis on quality (Vaničková, 2017). PRINCE2 principles are based on experience from previous projects which were either successful or unsuccessful. Managing a project using PRINCE2 means that its principles have to be respected since they are universal and applicable to any project (Vaničková, 2017). Also, PRINCE2 offers a disciplined environment for implementing risk responses by identifying and assessing project risks. As one of the leading factors of project failures, most of the projects fail because of a lack of proper risk management (Tomanek & Juricek, 2015). In PRINCE2 methodology, risk management has three dimensions: risk management strategy, risk register, and risk management procedure (Tomanek & Juricek, 2015). The risk management strategy deals with how to embed risk management in project management activities, measures risk tolerance, and triggers the exception (Tomanek & Juricek,

2015). Risk register is a tool for capturing and maintaining information about risks and opportunities (Tomanek & Juricek, 2015).

### Conclusion

PRINCE2 project management framework can be integrated with an agile methodology such as Scrum to effectively manage imperfect projects. This means there would be reduced project risks, costs and time will be used effectively to produce a reasonable project outcome, the quality of the project outcome will be high. Because some traditional methods to project management such as waterfall are rigid in their approach, they fail to wholly take care of project management issues, and thus, they have high chances of causing project failures. Combining PRINCE2 and Agile methodology reduces the chances of project failure because PRINCE2 has standardized approaches and principles to project management, and Agile has some flexibility as it allows projects to be managed iteratively, thus minimizing the causes of failure. The findings of this study reveal that combining the two approaches will lead to success provided that the involved individuals integrate the approaches well and deal with any problems appropriately and earlier on. Nevertheless, more research into the sector is vital to ensure the identification of suitable remedies to common problems.

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