

## **Agile Effectiveness: Shaping Real-World Project Success**

### **Introduction**

Over the past two decades, Agile methodology has revolutionized project management. As businesses navigate increasing complexity and uncertainty, the traditional Waterfall model often falls short of meeting all stakeholder expectations. According to the Standish Group Chaos Report (2020), Agile projects outperform those managed under the traditional Waterfall model, boasting a 42% success rate compared to 26% and significantly lower failure rates 8% versus 21%. Agile practices, known for their flexibility and iterative life cycles, foster collaboration, and adaptability, proving indispensable in sectors driven by constant change and innovation. This essay evaluates Agile's impact on project timelines, risk management, quality, and cost, illustrating its superiority in contemporary business environments.

### **Practical Benefits**

It is worth noting how Agile approaches applied to real-world projects can significantly accelerate progress and shorten the time required to complete projects. Although speeding up the project is not the primary goal of agile project management, it helps reduce the project timeline by providing flexibility in handling changes and fostering efficient collaboration within the team to eliminate delays. To understand how Agile approaches can help reduce project timelines, consider Scrum, a popular Agile technique that enables proper collaboration and avoids time wastage during the project. Scrum is a framework comprising rules, roles, events, and artifacts that adopt an iterative approach to assist teams in working together. Unlike the traditional waterfall model, the Scrum project life cycle includes planning, building, testing, and reviewing, which are repeated in iterations known as sprints. Each sprint is time-boxed, and there are three key roles in Scrum: the Product Owner, who defines the product features; the Scrum Master, who facilitates the team and ensures smooth process flow; and the team members, who bring specific skills to the project. The Product Owner organises the product features into a backlog that is prioritised during sprint planning meetings. Each project usually consists of one to three sprints, during which all team members participate in daily meetings, or "daily scrums," to discuss progress. The result of each sprint is a potentially shippable product. According to Segue Technologies (2015), Agile approaches use fixed-schedule sprints to expedite product delivery by allowing for earlier prediction and testing, leading to shorter deadlines. Moreover, Agile methodologies focus more on the execution process than on initial planning, thus reducing time spent on revising predefined information and enhancing transparency, which streamlines communication with stakeholders during project meetings and reviews (Project Management Institute, 2017, p. 506).

### **Risk Control**

The application of Agile methodology to complex projects involving high uncertainty and substantial change has become increasingly prevalent. These projects face challenges due to the complexity of the modern business environment, which demands flexibility and adaptability in project management. Notably, although requirements are gathered before execution, stakeholders must commit funds early without assurances of success, potentially leading to wasted resources. In this context, Agile methods are better suited to

managing complex real-world projects. Iteration scheduling with backlogs allows team members to quickly identify risks at each iteration, providing immediate feedback and continuous adaptation (Villanova University, 2020). During subsequent iterations, the Product Owner prioritises the backlog based on project priorities and team capabilities, enhancing risk management as backlogs are regularly reviewed, updated, and reprioritised (Project Management Institute, 2017, p. 400). Stakeholders receive deliverables from the first iteration onwards, allowing for timely feedback and adjustment of risks and changes. An example of Agile methodology applied in a government contract demonstrates how it accommodates changes without compromising the overall agreement, thereby managing risks effectively (Project Management Institute, 2017, p. 465).

## Quality Enhancement

Quality enhancement is a significant contribution of Agile methodologies towards real-world projects, particularly due to the iterative life cycle they employ. Traditionally, quality management is delegated to a single individual, the quality manager. In contrast, projects that follow an Agile methodology tend to distribute responsibility across the entire team, potentially increasing the efficiency of quality management due to the collective work and effort of the group. Furthermore, under the waterfall model, quality control is only performed at the project's completion. Agile projects, however, include frequent quality checks during the project's progression rather than only at the end. This approach ensures that sources of problems and potential risks or changes are identified early, allowing for timely adjustments and improvements during each iteration (Project Management Institute, 2017, p. 300).

A notable example of a successful real-world Agile project is the Subscription Billing Platform (SBP) project conducted by Cisco. Cisco IT continuously seeks innovative ways to improve efficiency and productivity and enhance customer experience to drive market growth by digitising as much as possible. Although Agile techniques are typically adapted for small teams, large projects often continue to use the traditional model. In the SBP project, several teams were organised to design, construct, test, and deploy. It is important to note that in the traditional waterfall paradigm, the next team cannot begin work until the previous team has completed its tasks. This sequential dependency often results in slow-release cycles, overtime issues, missed delivery dates, and quality problems. As a result, Cisco adopted the Scaled Agile Framework (SAFe) to address these challenges (Null, no date). According to Heusser (no date), SAFe is primarily used in large projects for its ability to provide structure, coordination, standardisation, governance, priority setting, and progress monitoring, which are beyond the capabilities of original Agile methods.

The first solution implemented during the SBP project was the Agile Release Train technique, which was applied to three release trains: capabilities, defects and fixes, and projects. Both the project and the defects and fixes teams worked on development and safe release, while the capabilities teams focused on broader platform development. The second solution involved the teams working together face-to-face to develop and test features within a cloud-based software delivery model known as SaaS, releasing them regularly. The third solution was a requirement for 15-minute daily meetings throughout the project lifecycle, with tasks recorded and assigned on a Kanban board, an Agile project management tool that enables workflow visualisation, work-in-progress restriction, and productivity enhancement. As a result, worker satisfaction increased as issues such as overtime and long release cycles were resolved through proper capacity planning and timely delivery. Most importantly, a 16% decrease in the defect rejection ratio, a 40%

reduction in critical defects, and a 14% increase in defect removal efficiency demonstrated significant improvements in quality and productivity (Scaled Agile Framework, no date). In summary, the iterative life cycle enforces a longer period of quality control and increases human resource involvement by sharing responsibility among all team members. The successful Subscription Billing Platform project confirms the contribution of Agile approaches by applying the Scaled Agile Framework to solve complex project challenges.

## **Cost Reduction**

Notably, Agile techniques offer prevention of time wastage, enhancement of risk control, and improvement in quality in the real-world business environment; consequently, this leads to cost reduction when applied correctly. According to the Australian Bureau of Statistics (2020), the average hourly income of a median employee is \$36 per hour. Employees are paid 1.5 times their ordinary rate for the first three hours of overtime, and this rate increases to twice the ordinary rate of pay on Sundays (Victoria State Government, no date). Therefore, preventing time wastage through the project can avoid unnecessary expenditures on human resources. Furthermore, evaluating capacity and progress during short iteration life cycles against the initial goals can provide accurate cost, schedule, and scope estimations based on real-world progress rates and risks (Project Management Institute, 2017, p. 671). Teams have more time to correct errors and perform risk prevention to avoid major costs and damage in the future. For example, in high-risk environments like construction projects, if an accident occurs, the company could face significant financial losses and damage to its reputation. Therefore, Agile practices are particularly well-suited for managing such high-risk projects. Additionally, the Agile framework's emphasis on shorter iterations ensures that as many outcomes as possible are achieved to encourage frequent, incremental delivery. Short iteration life cycles allow for early detection of deviations and quality defects, when adjustments are most cost-effective (Project Management Institute, 2017, p. 276). In summary, cost reductions within Agile practices arise because they help avoid unnecessary workforce costs, improve risk control to prevent losses, and detect quality issues early to prevent wastage and achieve cost-effectiveness.

## **Conclusion**

In summary, Agile methodologies are not just effective; they are transformative in managing modern projects. By adopting practices like Scrum, businesses bridge the gap between theoretical project plans and dynamic real-world execution. Agile's iterative cycles promote ongoing improvement and swift adaptability, ensuring that stakeholders see timely results. Projects managed under Agile frameworks, like the noted Cisco's Subscription Billing Platform, demonstrate marked improvements in quality and efficiency. As organisations face growing complexities, the flexibility offered by Agile becomes not just beneficial but essential. Agile's proven ability to enhance project outcomes and reduce costs solidifies its role as a cornerstone of modern project management.

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