



RESEARCH PAPER

Examine the Agile Techniques with Revolutionizing in Project Management

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ABSTRACT

In particular, when contrasted with other project management approaches, this research intends to clarify why agile methodology has become so popular and effective in modern business. The Agile technique has become very popular and effective in today's industry. The study examines different project methodologies and the factors that affect its acceptance. Results from surveys show that participants think agile is the best approach, with many highlighting its benefits such as low costs, high levels of customer satisfaction, and active participation from end users. In order to compile responses from professionals working on various projects, the research relies on surveys. The methodology delves into in-depth research to uncover the causes of agile's success and its influence on the field of project management. Participants praised the success of agile methodology across multiple dimensions, indicating overwhelming support for the methodology in the study. In order to drive the adoption of agile, the results highlight the critical role of end-user contribution, best practices analysis, and management support. The results do point to the necessity of additional research, such as comprehensive surveys investigating alternative methodologies.

KEYWORDS Agile, Customer Happiness, Efficiency, Project Management

Introduction

Traditional approaches to project management are struggling to keep up with the ever-changing and complex corporate environment of today, which is characterized by rapid technology advancements, a wide range of stakeholders, increasing R&D efforts, globalization, and an increase in the demands for higher performance. We need to change our mindset to be more efficient and adaptable because the business world is always changing. Agile practices are replacing the traditional methodologies in the field of project management, which is a clear indication of this transition (Cook, Heath and Thompson, 2000).

The necessity to abandon conventional project management approaches in favor of the more effective and efficient agile methodology has been accelerated by this. While both agile and traditional project management aims to produce observable results, their methods couldn't be more different. Planning is carried out sequentially before development activities begin in the conventional, waterfall method, which presupposes predictability in project expectations, durations, outcomes, and requirements. Clients' inability to clearly state all project requirements in the outset is one obstacle that hinders this method. Also, before development starts, it's necessary to get consumer approval on extensive requirements documentation (Crowder and Friess, 2015).

Agile project management, on the other hand, overcomes these constraints by directing endeavors toward the satisfaction of end users via iterative planning, close cooperation, and quick feedback. Agile project teams work closely together to provide value to customers; these teams often include end-users, business analysts, specialists, and a project manager. Proponents of the agile methodology, such as Highsmith Jim, stress the need of maintaining a steady equilibrium while responding quickly to shifts in the external business environment (Crowder and Friess, 2015).

Agile approaches, in contrast to more conventional forms of project management, place an emphasis on iterative delivery of working products and prototypes to customers in order to optimize and evaluate those. Agile practices support continuous iterations, incorporating testing, development, design, analysis, and requirements in short cycles, in contrast to predictive approaches that aim to anticipate activities and requirements before project initiation. Feedback is crucial for improving subsequent iterations, which in turn create a working product and prototype with each iteration. When compared to more conventional approaches, this agile methodology not only guarantees greater profits with less resource consumption, but it also completely transforms the business sector (Leybourne, 2009).

Companies with a lot of employees tend to be slow to adopt new ideas, which cause them to fall behind SMEs when it comes to innovation. Small and medium-sized enterprises (SMEs) wonder why bigger companies are so averse to new ideas. Organizations of this size have a hard time responding to changing consumer preferences because their very structure discourages and even outright prohibits a culture of constant innovation. Consequently, a lot of big companies struggle to live up to people's expectations. A mentality change towards innovation is urgently required in large businesses. There are many obstacles to overcome, and potential positive and negative outcomes, before this change can be initiated. Organizations and individuals within them must stimulate and support a true revolution in the way operations are carried out if they are to encourage innovation. Adopting agile methodologies can help streamline this process, which is undeniably complex. The innovation process is lacking of viable alternatives and replacements, and research into agile methodologies has shown that they may help with innovation efforts (Janowski, 2021).

Large corporations clearly aren't as eager to innovate as small and medium-sized enterprises (SMEs), which shows in their lower innovation rankings. Many wonder why these corporations are so slow to adopt new ideas. Many big companies have deeply ingrained cultures that make it difficult, if not impossible, to embrace a mindset of constant innovation. Therefore, it is becoming more important, rather than less so, for large corporations to adapt to changing best practices. There has to be a sea change in attitude towards innovation at the top of major companies. While this change could have many positive outcomes, it's important to be aware that it could also have some negative ones.

Literature Review

Organizational learning relies heavily on agile project management to improve its planning, decision-making, and design processes, which in turn boosts innovation and success. Organizations can quickly adapt to changing needs with this approach, which allows them to move quickly from decision-making to implementing innovations. In the past, software development and in-house projects were the main areas that used agile methodologies. However, studies shows that when agile thinking is embedded in

organizational DNA, companies are better able to handle the complexity and uncertainty of today's business demands (Hochheiser et al., no date).

Companies are trying to accomplish lofty goals with little money, fewer employees, and limited operations because of resource constraints. Constraints on available resources highlight the need to maximize efficiency in all areas of company operations, particularly project management. Businesses, nonprofits, and public and private organizations alike have widely varying and often unrealistic expectations of one another's outputs and efficiency. A key component of agile methodology is its incremental and iterative approach to design and development in fields as diverse as engineering, IT, and business. Agile project management is characterized by a focus on continuous improvement and the use of a highly collaborative and adaptable approach to creating new goods and services (Fernandez and Fernandez, 2008).

According to research conducted by multiple scholars, agile requirements include proficient individuals from relevant enterprises, leadership that is not hierarchical, and management that is in sync with open customer inputs. For businesses looking to diversify their offerings, the agile principles are a great place to start. These principles, which stem from the agile manifesto, stress enhanced client collaboration, adaptability, work scope freezing, perfection in work delivery, and less dependence on documentation and particular tools or procedures. Agile X and other extreme agile procedures follow an iterative life cycle that presents deliverables in stages. One major difference between iterative development and agile is the emphasis on completing work in defined sections of deliverables by individual life cycles. This approach helps to continuously refine project requirements (Alves et al., 2007).

The advantages of agile project management are not limited to the software development industry; they can be applied to many other areas as well, especially those dealing with innovation and uncertainty. When applied to non-software projects, agile methodology helps meet current customer needs while reducing costs, increasing efficiency, and minimizing waste. The last 30 years of technological revolution have proven its worth, with IT teams demonstrating increased productivity, quality, success rates, and market speed (Control, Performance and Contexts, 2008).

However, there are challenges to overcome when shifting from waterfall planning to agile planning. This transformational stage is where pull-or push-oriented agile coaching really shines, as it helps teams make the changeover with little disruption (Leybourne, 2009). One type of change-driven agile methodology, the adaptive life cycle, allows for project changes while requiring ongoing stakeholder involvement. Managerial philosophies have changed drastically, with an emphasis on collaboration replacing command and control, as a result of the broad use of agile practices. Agile methodologies have seen a good impact on new product introductions and consumer inquiries, as well as increased profit generation and skilled general manager development, in a variety of industries. These industries include media, defense, marketing, logistics, and manufacturing (Nerur, Mahapatra and Mangalaraj, 2005).

Although agile has a lot of potential, there are still a lot of things that hold people back from using it. The effective implementation of agile practices and principles is hindered by the fact that many executives do not possess sufficient knowledge or training in the area. Executives' mistrust has the potential to reduce the effectiveness of agile teams and hinder the advantages of agile innovation. Regardless of these obstacles, businesses have a lot of chances to benefit from agile project management, drive innovation in a dynamic market, and increase customer engagement.

Material and Methods

In order to explore and evaluate current methods, draw conclusions, and outline research avenues, this paper uses a mix of surveying, interviewing, literature reviews, and comparative analysis.

Concepts from Philosophy

The foundation of research validity rests on the philosophical assumptions that govern the process of data collection and analysis (Hennink, Hutter, & Bailey, 2010). This study uses qualitative methods for analyzing data, taking an interpretative and descriptive case study approach. In order to compare and contrast the features of waterfall and agile software development methodologies, we administer questionnaires to gather information about each. We focus on the effects and benefits that these approaches have on users. Efficiency and user satisfaction levels are assessed using descriptive statistics to determine if agile methods are better than waterfall approaches.

Material and Methods

Data is gathered through participant observation and member checking to ensure data credibility in qualitative exploration. We use methods like crystallization, peer reviews, and member checking to make sure the data we get is verified.

The research method delineates the inquiry process, encompassing research design and data collection strategies (Hennink, Hutter, & Bailey, 2010). Based on the research objectives, the researcher's understanding of the subject matter, and the nature of the research, both quantitative and qualitative methods are used in this study. In contrast to quantitative methods, which collect numerical data for analysis, qualitative methods, aim to understand processes and perceptions.

Results and Discussion

The data from all of the respondents was entered into IBM's SPSS programme for the social sciences. All of the relevant studies for verifying dynamics were performed inside the programme. A large number of participants participated in the study on the implementation of agile project management, which was helpful and in line with the goals of the research. Two main tools, interviews and surveys, were used to collect data. For this study, we polled project managers who used agile models alongside those who stuck with more conventional methods. All of the results are summed up down below.

The majority of respondents said they had not yet implemented agile project management practices, while a sizable minority said they had. This difference is graphically shown in the figure below, which highlights the significant change towards more organizations using agile project management.

Table 1
PM Techniques using in Industries

Techniques	Percentage
Using Agile Project Management	32%
Using Conventional Project Management	52%

Projects managed in a conventional or traditional fashion tend to be led by bureaucrats and follow a strict, top-down methodology. The results showed that a large majority of project managers (88%) and their companies are still using old-school approaches to project management instead of more modern agile approaches. Yet, it is worth noting

that most of these managers have shown a willingness to implement agile models down the road.

A large number of professionals and organizations are considering adopting agile project management due to the rising awareness of its benefits, as indicated by this high percentage. Only 7% of project managers are happy with conventional methods of project management and are unwilling to even consider agile, as shown in the figure below, illustrating this change. People are hesitant to adopt agile methods because they worry it won't work for their companies.

Table 2
Agile Project Management Implementation Advantage

Agile PM Implementation Advantages	Percentages
Cost effective	20%
Fostering Teamwork	29%
Focus on Values rather than cost of project	16%
Higher Success Rate	35%

The data showed in the graphic above highlights how agile project management greatly improves project success rates, which is a key reason why project managers prefer this model. A key argument in favor of the agile methodology is the reliability with which it completes projects. People who were hesitant to embrace the agile model mostly did so because they were worried about the financial ramifications and because they didn't think it would work for their particular projects or company.

Agile project managers were also encouraged to consider their lives both before and after embracing the methodology. An overwhelming 83% found a significant change between the two time frames. Multiple problems and a high rate of project failure were common during the pre-adoption phase. Improvements in project management ease change and risk management, and success rates were observed in the post-adoption phase, on the other hand. Project managers' comparative responses are shown in the diagram below, which shows how adopting agile methodologies can improve project management success.

Table 3
Agile Success Rate

Agile PM Success Rate	Percentage
Success rate before agile PM	36%
Success rate after agile PM	64%

Significant changes have been made to the project management process in recent times. Companies that have switched from traditional managing projects to agile were quick to praise the benefits of the new approach. Project success rates are nearly double when agile project management is used compared to when it is not. This is illustrated in the diagram right above.

Conclusion

The findings show that agile methodology is quite popular and effective in today's industry. Agile is unique among project management approaches due to its high level of efficiency and quality of output. According to the results of the survey, agile has been far more successful than other methodologies.

In the results and findings section, we explore the many factors that affect agile adoption; highlighting the critical role that each plays. One major factor influencing the

broad use of agile is the nature of the project. Agile has gained immense popularity due to its many benefits, including its ability to reduce development costs, meet customer expectations, involve end-users/clients, provide flexibility, and accommodate changing requirements mid-process. Sprints usually only last about two weeks, which is the only real downside that has been brought up.

Recommendations

Future research could benefit from more thorough questionnaires to investigate other methodologies not addressed here in order to bolster the findings and insights. To fill in the gaps in our understanding of industry preferences, we could also conduct surveys with experts from different methodologies and different types of organizations. Several factors impact the choice to embrace agile rather than other methodologies. These include, but are not limited to, the level of participation and input from end-users, the thoroughness of research into best practices, and most importantly, the level of interest and support from management in making the switch to agile. In conclusion, the extensive data supplied proves that agile is the best methodology for modern project management because it is successful in every respect.

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