

# Effects of Agile Methodologies on Long-Term Success of Startups

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## Abstract

*In this paper, we examine how the early adoption of agile methodologies influences survival of startup companies, and the level of success startup and entrepreneurs can record while embracing specific principles and practices of agile. The research questions aim to explore key areas affecting the success of startups and entrepreneurial ventures. They seek to identify the primary challenges that startups face in achieving long-term success, understand how agile methodologies can be effectively adapted to support their growth and sustainability, and examine the roles of organizational culture and leadership in fostering long-term success through agile practices. Furthermore, in this paper, we will analyze the significance of effective delegation, impact of human factors as it relates to agile projects and findings on risk management among startups. We also list specific agile processes that played a key role in enhancing survival possibilities and chances of startup companies for companies that start-off practicing agile methods. This research is carried out using a mixed-method approach. This study concludes that the early adoption of agile methods significantly enhances the long-term success of startups by improving organizational culture, risk management, and adaptability.*

## Keywords

*Agile methodology, agile leadership, startup, and entrepreneurship.*

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## INTRODUCTION

This paper aims to provide deeper insights into the long-term success of startups through the adoption of agile methodologies, particularly focusing on how these practices support growth and sustainability in the rapidly evolving technological landscape. It provides insights into the concept of startups specifically because these newly found companies are significantly booming in recent years especially with the aid of technology.

In addition, this paper will address the existing gap on this topic and discuss the crucial elements that are necessary for long-term agile success from the context of startup companies. This article emphasizes the critical role of early adoption of agile methodologies in achieving sustained success for startups, detailing practical strategies for integrating agile practices from the beginning. Furthermore, it is very interesting to know that startups and entrepreneurship have brought big and sudden changes, and these changes are quite irreversible.

Interestingly, there is no universally accepted definition of a startup, with various experts offering differing perspectives based on factors such as company size, innovation, and revenue. Several experts have defined startups, and it seems there has been no mutual agreement till now on the exact definition of a startup [1]. Several questions regarding if startup can be defined based on size of the company or based on innovation are still unanswered. However, Robehmed gave perspective to the definition and concepts of startups based on the revenue, profit margin and the number of workers in the company [2].

This paper presents insights into the challenges faced by startups and how agile methodology can be applied and adapted to overcome these challenges. We pointed out in this paper the need for the early adoption of agile by startups and practical ways for achieving this success while applying the principles and practices of agile methodology.

This study aims to address and answer the following three research questions:

RQ1: What are the challenges encountered by startups and entrepreneurs in achieving long-term success? This is an investigation into the challenges to examine how startups and entrepreneurs can contribute to achieving long-term success. We perform this verification step in in order to assert that startups encounter challenges that affect their long-term success.

RQ2: How can agile methodologies be effectively adapted in startups and entrepreneurial ventures to achieve long-term success and growth? This is an investigation into how agile practices can be adapted in startups. This seeks to provide comprehensive insights into different development processes and how agile practices can be effectively adapted.

RQ3: What are the roles of organizational culture and leadership in startups and interplay in long-term agile success? Our goal is to explore how both organizational culture and leadership can be improved by adapting agile practices and roles to achieve long-term success.

## RELATED WORK

This chapter aims to add more insight into the fundamentals of startups adoption of agile methodology and its success factors. It is already popular knowledge that the adoption and implementation of agile methodologies can

address many complex issues and ambiguities in project management, making them a valuable tool across diverse industries. It is not surprising that agile methodologies have now been adopted by many industries.

The origin of agile can be traced to information system development and manufacturing as far back as the 1930's but recent publications rarely present this far-back history of agile methodology. Agile methods are not new but have gained significant increase in popularity in recent years with rapid adoption by many industries that have previously had little interest in these ways of doing business [3]. Many suggested that agile methodology started around the year 2001 and it started with the Agile Manifesto [4]. Industry perceived narrative that teaches agile as a “new” set of tools and techniques also contribute to the misconception, however Agile methods can be traced as far back as 1930 with gradual evolution during the years till date [3].

Agile methodology is a people- and results-focused approach that emphasizes adaptive planning, self-organizing teams, and short delivery cycles, which are particularly beneficial in the fast-paced environment of modern software development. Predominantly common within modern software development processes. It uses concepts such as adaptive planning, self-organizing and short delivery time [5].

While several research papers exist for startup success [6], very limited research exists in the area of agile success for startups and entrepreneurship. The majority of existing research is centered around established companies' adoption of agile processes and practices. We however strive to create more awareness regarding agile adoption by startups.

We consider self-organizing, team environment, customer involvement, delivery strategy, effective risk management, the importance of team delegation and team capacity as crucial elements for agile long-term success for startups. Some other agile success factors include customer satisfaction, organization culture and continuous improvement [7]. As a result of the challenges faced by startups, Sreenivasan and Suresh highlight agility, adaptability, and alignment, as important concepts for survival and long-term agile success of startups. [8]. In fact, the agility of startups lies in their ability to respond quickly and effectively to the ever-changing markets [9]. Early adoption of agile methods can also help startup companies to mitigate against numerous risks that can lead to loss and possible business shutdown [10].

## METHODOLOGY

This study employed a mixed-method approach, integrating both qualitative and quantitative data to leverage the strengths of each method for a comprehensive understanding of the determinants of long-term agile success in startups. This approach aims to leverage the strengths of each method to provide a more in-depth understanding of the key determinants contributing to long-term agile success for startups and entrepreneurs. The sample comprised 93 survey

respondents and 15 interviewees, providing a diverse range of insights. This sample size was deemed sufficient to capture varied perspectives and ensure robust data analysis. The research did not specify a type of startup or a leader role.

Data was collected through a literature review, a survey, and a combination of group and individual interviews. Tools used for data collection included various databases such as Google Scholar and the Chalmers library, with the survey being conducted via Google Forms.

The research process began with an in-depth literature review to establish a foundation for the study. Following this, a survey was designed and distributed to participants to explore agile practices and leadership in startups and entrepreneurial ventures. Key aspects identified from the survey informed the questions for the group interviews. Insights from the group interviews were then used to develop questions for the individual interviews. All interviews were transcribed for data analysis.

We conducted a thematic analysis of the interview transcripts to identify and categorize recurring themes, which provided in-depth insights into leadership practices and agile methodologies in startups. These themes were carefully examined to gain insights into leadership and their approaches to working with agile methodologies. The findings from this analysis provided a comprehensive understanding of the interviewees' experiences and opinions, which were essential in addressing the research questions and drawing conclusions.

## RESULT AND DISCUSSION

This section presents a summary of the result found on this research aiming to answer the research questions.

### **What are the primary challenges encountered by startups and entrepreneurs in achieving long-term success?**

The primary challenges identified in this study are shown in Table 1.

**Table 1.** Challenges Encountered by Startups

	<b>Startup challenges</b>
<b>C1</b>	Continuity of agile practices
<b>C2</b>	Human resource management
<b>C3</b>	Lack of attention to changing markets

Startups often struggle with establishing a clear and organized structure. Challenge C1 is particularly pronounced in the early stages, where creating consistent routines and processes is crucial for minimizing ambiguity and maximizing productivity. To create a common way of working, routines, and processes, are crucial for establishing a stable ground. Unclear goals and roles create confusion and inefficiencies within the team, leading to delays and misunderstandings. Having clear goals, roles, and ways of working at the initial stages sets a strong foundation for the startup's growth and success by minimizing ambiguity and

maximizing productivity.

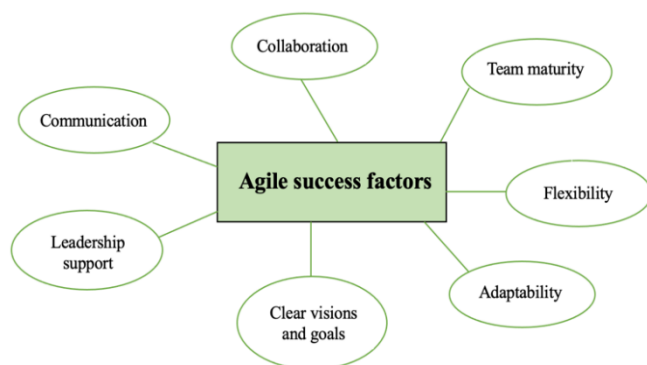
The challenge C2 is human capital mobility and retention, which is interconnected with financial challenges. Hiring employees poses a significant challenge for startups, particularly in the initial stages when resources are limited. Leaders should have experience in recruitment processes, as effective human resource management is crucial for the success of hiring employees. Although hiring employees is a challenge, it is essential to improve satisfaction and engagement among current employees. This could involve creating a positive work culture and providing opportunities for professional growth and development.

Another challenge is the C3 which is the difficulty of delivering on time to customers. This has several reasons, but the major one is the need to constantly adapt to changing markets. For startups to keep up with rapid developments, it is important to be highly responsive and flexible to adapt to changing requirements. Effective communication and collaboration within the team and with stakeholders are crucial for the flexibility of the startup.

We assert that the primary challenges include establishing a clear structure and ways of working, addressing financial issues, and fostering adaptability. To achieve long-term success, startups and entrepreneurs could consider adopting agile methodologies to address these challenges, which can lead to sustainable growth and success in the long term.

### How can agile methodologies be effectively adapted in startups and entrepreneurial ventures to achieve long-term success and growth?

Our findings suggest that implementing more agile ways of working contributes to the success of startups. Some success factors we identified in this study are shown in Figure 1.



**Figure 1.** Agile Success Factors for Long-term Success Startups and Entrepreneurship

A critical factor for the successful adoption of agile practices is the maturity of the team. Mature teams are better equipped to collaborate, self-organize, and manage their work effectively, which maximizes their creative capacities and motivation. Key factors for self-organizing teams include well-defined goals and objectives, as these are essential for decision-making and the team's adaptability and responsiveness to the fast-changing market.

Another agile success factor is leadership support. Leaders play a pivotal role in fostering an environment that embraces agile methodology. This includes promoting agile practices, ensuring alignment with the overall vision and goals, removing impediments, and supporting the team by encouraging open communication and collaboration. Another critical factor for achieving long-term agile success for startups and entrepreneurs is flexibility and adaptability. The ability to quickly adapt to changes and customer needs is essential for a startup's success and growth. This involves implementing iterative development cycles and continuous feedback, which are inherent in agile methodologies.

Furthermore, our findings provide insights into the potential challenges of adopting agile methodologies, as they do not apply to all types of startups and entrepreneurship. For startups that often require attention to legal or industry standards that dictate certain processes or documentation requirements, agile practices may not always be suitable. The iterative approach will not be as suitable as, for example, the step-by-step approach of the waterfall.

### What are the roles of organizational culture and leadership in startups and interplay in long-term agile success?

Adopting agile leadership principles can significantly enhance a startup's progress towards its goals and overall success. Agile leaders foster an environment of collaboration, transparency, and adaptability, which are essential for navigating the dynamic market landscape. According to research from Deloitte University Press, culture, and engagement rank as one of the foremost challenges for organizations [11]. Based on our findings, these can be improved with agile leadership principles.

Some agile leadership principles may be less applicable, especially for startups where the number of staff in the organization is low. In such cases, decision-making may be challenging due to the abundance of leaders. There cannot be an imbalance between the number of leaders and employees. While having multiple leaders can foster collaboration and distributed decision-making, it can also result in challenges such as unclear roles and conflicting priorities.

We assert that organizational culture and leadership play pivotal roles in driving long-term agile success for startups. To strive for long-term agile success, startups must carefully navigate the interplay between organizational culture, leadership effectiveness, and agile principles. By fostering a culture of collaboration, transparency, and adaptability, and aligning leadership practices with agile principles, startups can overcome challenges and leverage opportunities.

## CONCLUSION

This study examines the adaptability and applicability of agile methodologies in fostering the long-term success of startups and entrepreneurial ventures. Through qualitative interviews and data analysis, we identified key challenges and effective agile practices that contribute to sustainable

growth. Our findings suggest that adopting an agile framework can be a suitable approach for achieving long-term success in startups. Agile practices enhance organizational culture, improve delivery strategies, and foster better collaboration and responsiveness to market changes. In conclusion, agile principles and values have been proven to be highly effective in the concepts of startups and entrepreneurship.

Based on our study, we have identified areas where future work and research can be conducted. One avenue for future work involves focusing on specific industries individually rather than taking a generalized approach. Our study encompasses startups and entrepreneurship across various industries. Delving deeper into a specific industry could yield valuable insights for achieving long-term agile success tailored to each industry's distinct characteristics.

Additionally, there is a need for research into the effective modeling of rapid iteration processes within startups and entrepreneurship. Understanding how to optimize iterative approaches to product development and business operations can be crucial for startups striving to adapt quickly to changing market demands and customer needs.

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