iJRASET
International Journal For Research in Applied Science and Engineering Technology



# INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

**Volume:** 10 **Issue:** V **Month of publication:** May 2022

**DOI:** https://doi.org/10.22214/ijraset.2022.43204

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
*ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538*
*Volume 10 Issue V May 2022- Available at www.ijraset.com*

# Impact of Agile Methodologies in Project Success

Poorti Sharma
*Student of Dronacharya College of Engineering, Gurgaon*

***Abstract:*** ***The Agile Manisfesto of software development put forth a groundbreaking mindset on delivering value and collaborating with customers when it was created in 2001. Agile methodology that utilizes iterative development and prototyping are vitally used in variety of industry projects as a light weight development method which can satisfy to changes of requirements. Traditional waterfall approach is not much efficient to manage the rapid change in requirements. The purpose of this study is to present the impacts of agile methodology in project success. Most studies have reported that when comparing structured methodologies with agile methodologies, agile does improve software quality, other studies have contradicted and questioned the claimed benefits , while others argued that there is not enough empirical evidence. This study aims at investigating the impact that agile method on project success in an organization. The selected studies were published between 2018 to 2022.***

***Index Terms: Agile methodology, agile practices, impact of agile, project success***

## I. INTRODUCTION

Earlier, while implementing project with waterfall approach, has struggled to achieve project's success. Software projects have struggled to deliver the right quality within schedule and under budget. The struggle to achieve success in software projects led to the creation of the agile frameworks. The Manifesto for Agile Software Development emerged as a reaction to the Waterfall framework to create a new basis for frameworks that would better cope with the increasing uncertainties. Agile frameworks are frameworks that align with and are based on the agile manifesto. It has been observed that agile frameworks improves the chances of delivering high quality project. However it is common for projects to implement a set of individual agile practices instead of a complete agile frameworks with all agile practices. Agile methodology includes a family of lightweight methods that include Scrum, Crystal Clear, Extreme Programming (XP), Adaptive Software Development (ASD), Feature Driven Development (FDD), and Dynamic Systems Development Method (DSDM) Crystal, Lean Software Development etc. There is an abundance of Agile practices utilized in projects all around the world, affecting the project in their own unique ways. It is therefore important to understand how each Agile practice can impact conditions for project success. Some studies have addressed the positive and negative impacts , e.g., communication and motivation - caused by the various Agile practices. However, the studies tend to focus either on a limited number of Agile practices or on a limited number of conditions for project success.

## II. METHOD

### A. *Design of Literature Review*

1) *Research Question:* The paper answered the following Question "What studies are available on impact of agile methodology in project success?"
2) *Search Strategy:* To answer the research question, a search strategy was developed to retrieve relevant studies from the databases IEEE, explorer, researchgate, engpaper, ISER, EPPM and some journals database. The databases were searched using two queries that combine terms agile methodology, agile practices, impact of agile, project success. The search was limited to full text, English language material between 01-01-2018 and 01-01-2022. These dates were used to collect more recent articles around impact of agile methodologies in project success.
3) *Inclusion and Exclusion Criteria:* To be included in the review first the study had to discuss impact of agile methodology. Secondly the study was included if it provided a framework or guidance on impact of agile. Thirdly focused on any case studies of impact of agile methodology. Articles that didn't specifically discussed agile methodology or were not a full text article, were not in English , didn't fall in the date range or couldn't be downloaded and accessed were all excluded from the study. Performed an initial scan on all the results of the search and rejected those that didn't meet the criteria based on initial scan of title and abstract. Reviewed the titles and abstracts of the study identified in the literature serach to determine whether the inclusion criteria have been met. Extracted articles meeting the inclusion criteria for the full review. The selected studies were also examine for redundancy and duplicates were removed.

©IJRASET: All Rights are Reserved 

4) *Data Extraction:* Once the final set of studies were identified, general studies characteristic were extracted. Next, the goals of study were identified and extracted .This information was helpful to in informing the impacts but more research are need to be done in future.

## III. AGILE ITERATIVE DEVELOPMENT OVERVIEW

With Agile project management, the traditional project phases are maintained but during each phase (see below), the amount of work done in each activity rises or falls.

### A. *Agile Scrum Overview*

1) Defines Project Management Framework
2) Encourages High User/Customer Involvement
3) Promotes Continuous Improvement
4) Delivers Iteratively and Incrementally via sprints
5) Ideally Suited for Projects with High Uncertainty

## IV. LITERATURE REVIEW

Most of the organization are using agile practices and it assures to deliver high quality systems. Agile methods have proven their effectiveness and help in transforming the software industry. Studies showed that there is a gap where data analysis and work should be done with the concept of use of development agility and the factors and conditions which are linked with the project success. During the analysis and collecting of information, it was indicated that organizational culture and empowerment of the project team is the back bone to project success. Industry is moving toward the agile methods because the nature of project industry is moving towards more customer focused. There is a possibility of well structured problems which are having clear objectives which are to be solved but there comes a problem with uncertain user requirements.

Agile methods were evolved to cover the risks involved in the projects and respond to changes in the market so this leads to the success of the project. Similarly measurable tests are required to analyze the successful production of the agile software development projects.

It has been observed that the literature provides some evidence regarding the impacts of agile on project success. Some of the most visible effects of agile practices create formus for interaction such as stand-up meeting .the increased communication and knowledge sharing are in line with the vision of the Agile Manifesto's focus on interaction and responsive. At same time, agile practices have been shown to have both pos5tive and negative impacts. This study demonstrates that an agile practitioners are encouraged to be aware of the fact that project circumstances, context, implementation and combination of agile practices influence the project success conditions.

## V. POSITIVE IMPACTS OF AGILE ON PROJECT SUCCESS

### A. *Improved Quality*

In agile methodologies, there is work breakdown structure, in which project is break downed into sprints and then collaborate with other team members to provide high quality project. After each iteration, there is a testing phase which ensure teams to identify and resolve issues if any arises.

### B. *Speed and Flexibility*

The second benefit of using agile is its speed and flexibility .This practice places change at the heart of its development.

### C. *Transparency of Each Task in Project*

Agile methodologies offer transparency. This makes clients more involved in the project and establish a relation of trust and collaboration.

### D. *Stakeholders Engagement*

Under agile methodologies, Stakeholders participate in meetings and video conferencing which allows to track the progress of the project and make sure that the project is being completed according to the business's needs.

This methods also helps in builder a stronger relationship of trust between the teams and stakeholder.

*E. Cost Control*

An agile method helps to control cost as after each iteration, the team review the budget and further decide to continue ,suspend or cancel the task.

## VI. NEGATIVE IMPACTS OF AGILE METHODOLOGY IN PROJECT SUCCESS

*A. Poor Resource Planning*

As agile methods are expected to use when business's needs and requirements aren't fixed, this causes a problem to predict efforts , time ,cost and resources at the beginning of the project.

*B. Limited Documentation*

In agile methodologies, requirements in the beginning aren't clear, so there is limited documentation.

*C. Fragmented Output*

Iteration may help bring products to market faster, but it's also a big disadvantage of Agile methodology because when teams work on each task in different cycles, the complete output often becomes very shattered.

*D. No Finite End*

As, in the beginning of the project , business's needs aren't clear to the team, it means that projects have no finite end, as there is never a clear vision of what the "final product" looks like.

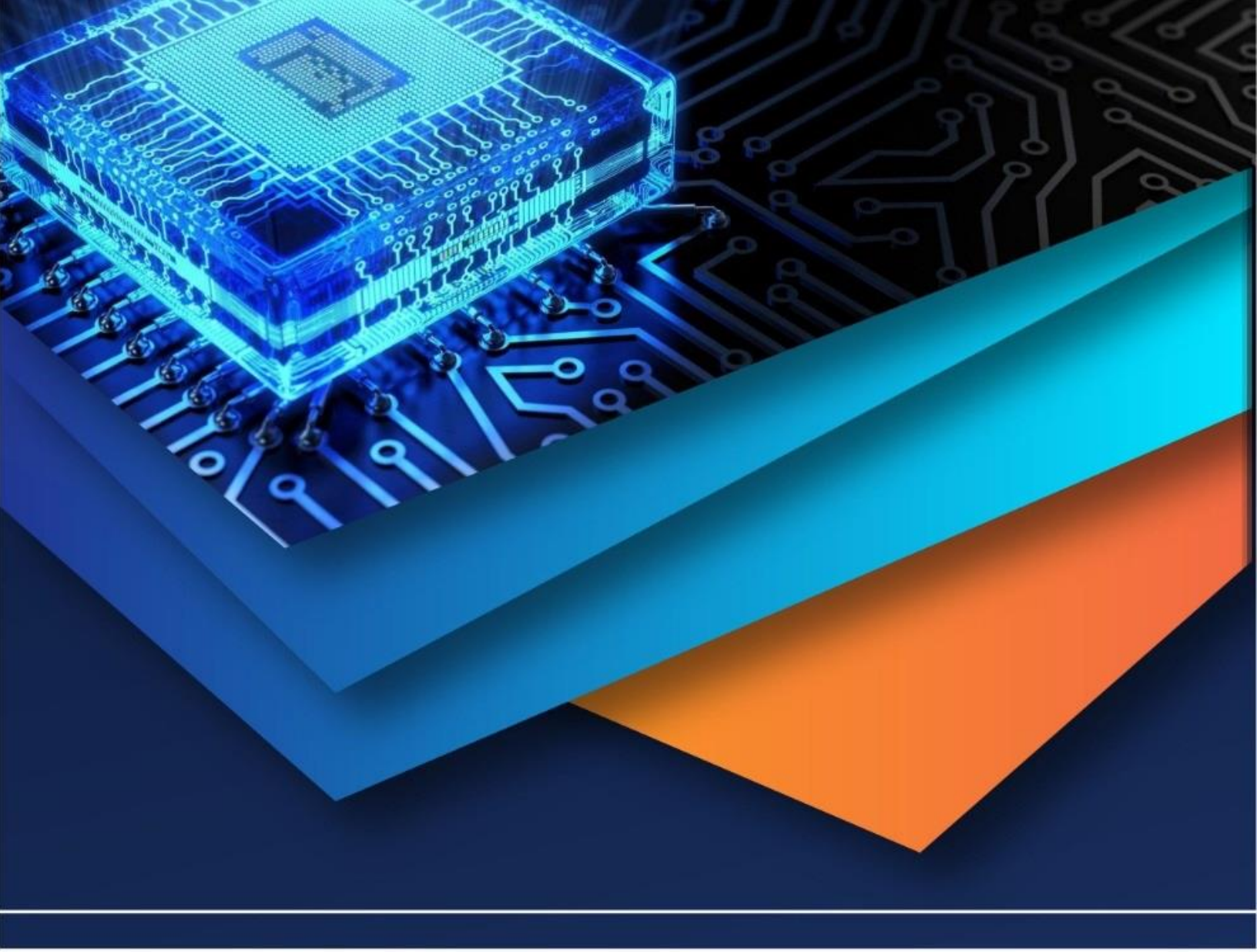
## VII. CONCLUSION

It has been observed that the literature provides some evidence regarding the impacts of agile on project success. Some of the most visible impacts of agile practices create formus for interaction such as stand-up meeting ,kick-off meetings. The increased communication and knowledge sharing are in line with the vision of the agile manifesto"s focus on interaction and responsive. At same time, agile practices have both positive and negative effects .

For future research, this study demonstrates that there is an abundance of impacts of agile methodologies in project success. This study is done with limited data and limited data analysis method. Firstly, only a number of sources have been reviewed. As time was limited, the study doesn't address all impacts of Agile methodologies in project success. More research should be done in order to find the more positive and negative impacts of agile methodologies in project success.

## REFERENCES

[1] Ciric Lalic, D., Lalic, B., Delić, M., Gracanin, D. and Stefanovic, D. (2022), "How project management approach impact project success? From traditional to agile", International Journal of Managing Projects in Business, Vol. 15 No. 3, pp. 494-521. https://doi.org/10.1108/IJMPB-04-2021-0108
[2] Download as .RIS
[3] journal/Journal-of-Engineering-Project-and-Production-Management-2223-8379
[4] Gaurav Kumar, P.K.B.: Impact of agile methodology on software development. Int. J. Comput. Technol. Electron. Eng. (IJCTEE) 2(4), 46–50 https://doi.org/10.5539/cis.v8n2p9
[5] https://www.researchgate.net/publication/351790501_Agile_Practices_and_Impacts_on_Project_Success
[6] //www. ccsenet.org.journal/index.php/cis/article/view/44383 MULUGETA, MAKDA, AGILE PRACTICE AND PROJECT SUCCESS IN SOFTWARE DEVELOPMENT PROJECTS: THE CASE OF CYBER SOFT COMPANY http://hdl.handle.net/123456789/6706
[7] Tripp, J.F.: The impacts of agile development methodology use on project success: a contingency view. Michigan
[8] Haider, A.: Impact of agile methodologies on cost estimation techniques in software industry of Pakistan. Ind. Eng. Manag. 06(03) (2017). https://doi.org/10.4172/2169-0316.1000218
[9] https://www.simplilearn.com/agile-project-management-and-its-impact-rar80-article
[10] Hayat, Faisal; Rehman, Ammar Ur; Arif, Khawaja Sarmad; Wahab, Kanwal; Abbas, Muhammad (2019). [IEEE 2019 20th IEEE/ACIS
[11] https://agilemanifesto.org/display/000000241.html
[12] https://sciendo.com/pdf/10.2478/jeppm-2021-0024
[13] https://www.researchgate.net/figure/Significant-differences-between-the-two-studies_tbl2_283749993



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

# INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)