Journal of Advanced Multidisciplinary Research Studies and Development

ISSN : 2583-6404
Mar - Apr 2023

AI/MACHINE LEARNING SUPPORT FOR AGILE PROJECT MANAGEMENT

Ashwini Sachin Shivane[1], Shweta Amol Bhoyate[2]
[1,2] *Indira College of Commerce & Science, Pune.*

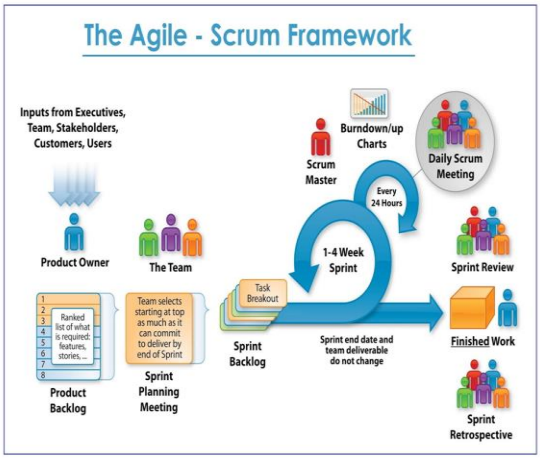
Abstract
Agile project management methodology is the most popular approach to project management because of its flexibility and evolutionary nature. It started in 2001 Over time, evolved over time and became a popular choice for many project managers, irrespective of the industry. Still, only 35% of projects today are completed successfully. One of the major reasons for this failure is the use of traditional technologies for project management, but this is about to change. Researchers, startups, and innovating organizations are beginning to apply AI, machine learning, at different stages of Agile Development. And by 2030 the field will undergo major shifts.

► *Corresponding Author: Ashwini Sachin Shivane*

Introduction

Agile project management methodology is highly emerging methodology because of its robustness and ability to adapt to changes. It's success rate, quality and speed can be enhanced by blending AI tools with traditional techniques. So, this paper contains steps involved in Agile Project and AI tools that can be used at these steps.

Key components of agile project management and AI support to them



A. User Stories:

This is a short & simple description written from the user's perspective and focuses on outlining what clients want (their goals, expectations) from the system.
AI tools available for writing user stories: ProductBoard, Avion, FeatMap etc.
Natural Language Processing (NLP) is having an equally transformative effect on product development. Language translation, sentiment analysis, question answering, chatbots and conversational interfaces now blur the lines between where the software ends and where human experiences take over.

ISSN : 2583-6404
Mar - Apr 2023

AI can be trained to understand requirements, identify missing information, prioritize risks, and more. The benefits of using Artificial Intelligence in it include increased accuracy and speed of the process, improved quality of the requirements, reduced human error, better understanding by stakeholders about how the system will work, reduced costs associated with managing requirements manually. Requirements managers are experts in a particular domain, and they use this software to manage the requirements of a business.

B. Sprints

Sprints are a short iteration, usually taking between one to three weeks to complete, where teams work on tasks determined in the sprint planning meeting.

Sprint planning requires a bit of discipline. The product owner must be prepared, combining the lessons from the previous sprint review, stakeholder feedback, and vision for the product, so they set the goal for the next sprint.

AI tools used for Sprint Planning are Asana, Jira, Tara etc.

Asana is the undisputed king of project management tools with features like timeline view, workload management, workflow builder, etc.

Jira from Atlassian, on the other side, is a great tool designed for agile teams with features like roadmaps, sprint planning, project backlog, etc.

Tara provides an instinctive sprint planning tool that will bring efficiency to your weekly sprint meetings. The tool simplifies task management, allowing you to prioritize backlog items and keep everything organized.

Tara also enables teams to plan smarter sprints with sprint insights like overload alerts and task status filter.

Tara also offers auto status updates and auto-sprinting features to help streamline your workflow.

Tara provides complete visibility allowing all team members to view tasks, requirements, and milestones. You can easily assign tasks to specific team members and view team progress with our built-in insights.

Task commenting and notifications are also enabled to boost team collaboration. Scrum team members can attach images, files, and links through our rich multi-player editor

C. Stand-up meetings

Daily stand-up meetings (under 10 minutes), also known as ‘daily Scrum meetings,’ are a great way to ensure everyone is on track and informed. These meetings are short and to the point.

Spinach app focuses on user’s discussions on related terms only during the standup meeting and save those meeting minutes by adding them under the topic “Team Topics" during the meeting. Then, once the meeting is done, team members can go through those topics or only concerned members handle it between themselves.

Undiffer is the best tool to run a classic daily standup meeting asynchronously for remote meetings. That means a common set of daily questions are posed to team members, who can update them at their convenience. It's especially effective for remote teams where colleagues work in different time zones, but can also be used in a regular office just to keep everyone on track.

D. Agile board

An Agile board helps your team track the progress of your project. This can be a whiteboard with sticky notes, a simple Kanban board, or a function within your project management software.

ISSN : 2583-6404
Mar - Apr 2023

E. Product Backlog

In Agile development, a product backlog is a prioritized list of deliverables, features that should be implemented as part of a project or product development.

Monday.com and **Jira Service Management** are the AI tools used for product backlog management.

Monday work management - Manage tasks and workflows to fuel team collaboration and productivity at scale.

Monday marketer - Manage and collaborate on marketing and creative projects to launch campaigns.

Monday sales CRM - Track and manage all aspects of your sales cycle, customer data, and more in one place.

Jira Service Management makes it easier to categorize service requests, incidents, problems, and changes by organizing and prioritizing these requests in a single place, and keeps your team on track with goals (or service level agreements).

F. Sprint Backlog

The Sprint Backlog is a plan by and for the Developers. It is a highly visible, real-time picture of the work that the Developers plan to accomplish during the Sprint in order to achieve the Sprint Goal. Consequently, the Sprint Backlog is updated throughout the Sprint as more is learned. It should have enough detail that they can inspect their progress in the Daily Scrum.

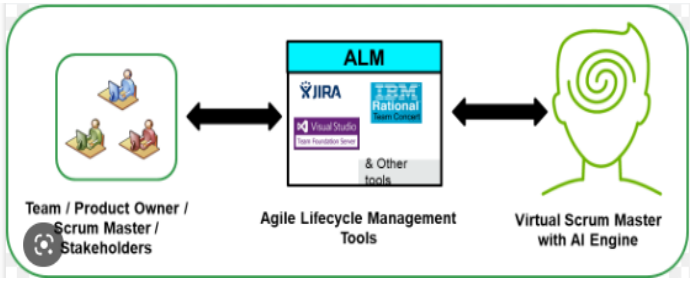
A **Scrum Board** (also called Scrum Task Board) is a tool that helps Teams make **Sprint Backlog items** visible. The board can take many physical (i.e. whiteboard and stickers) and virtual forms (i.e. software tools) but it performs the same function regardless of how it looks.

G. Sprint retrospective meeting

The focus of the meeting is not on the product itself but the processes, tools, and team dynamics that helped deliver the planned increment.

Infusing your sprint retrospectives with artificial intelligence is all about analytics and augmenting your data capture in order to grow. There are, however, a number of different retrospective formats that you can use at the end of a sprint:

GoRetro is a user-friendly, fun and customizable agile retrospective tool that leverages sprint data and team sentiment to drive continuous improvement.



Conclusion

Use of AI in project management increased by 270% over the past four years but few observations we must consider regarding use of AI in Agile project management are:

The top obstacle that managers may face by adopting AI is delivering erroneous outcomes due to bias in algorithms, data, or the teams responsible for managing them.

ISSN : 2583-6404
Mar - Apr 2023

Companies that are considering introducing AI for project management should keep in mind that they will have to spend a lot of time cleaning and training the data.

References

1. https://www.infoq.com/news/2019/03/artificial-intelligence-agile/
2. https://www.jile.io/blogs/benefits-agile-in-artificial-intellingence
3. https://www.researchgate.net/publication/347441620_HOW_ARTIFICIAL_INTELLIGENCE_CAN_TRANSFORM_SOFTWARE_GATHERING_PROCESS
4. https://www.theserverside.com/blog/Coffee-Talk-Java-News-Stories-and-Opinions/How-AI-can-help-with-requirements-analysis-tools
5. https://www.xenonstack.com/blog/ai-in-requirement-management#:~:text=Adoption%20Best%20Practices-,What%20are%20the%20benefits%20of%20AI%20in%20Requirement%20Management%3F,save%20a%20lot%20of%20time.
6. https://www.linkedin.com/pulse/how-artificial-intelligence-can-help-project-managers-marc-bara#:~:text=AI%2Dpowered%20tools%20can%20automate,more%20complex%20activities%20and%20planning.
https://gitential.com/using-ai-for-agile-project-management/
https://medium.datadriveninvestor.com/when-and-how-to-add-machine-learning-to-a-product-roadmap-f91bbc3b2776
7. https://www.goretro.ai/post/sprint-project-management-planning-tools
8. https://www.goretro.ai/post/ai-data-driven-future-of-sprint-retrospectives