Reducing Meeting Overhead in Engineering Teams

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Abstract *— This project aims to reduce meeting overload within an aerospace engineering team by integrating Agile practices and alternative communication methods such as email and project management tools. Two surveys were conducted to evaluate meeting frequency, effectiveness, and opportunities for improvement before and after implementing the proposed strategies. Results indicate a reduction in the average number of meetings attended per week and an improvement in perceived meeting effectiveness. The study concludes that adopting structured Agile-inspired practices and replacing certain meetings with asynchronous communication can improve team productivity and satisfaction.*

Key Terms *— Agile methodology, communication efficiency, meeting overhead, productivity.*

INTRODUCTION

Team meetings are essential in engineering environments where cross-department collaboration drives complex projects. Within the aerospace sector, projects are multidisciplinary and time sensitive, making efficient, well-structured meetings essential for coordination and progress.

This project was conducted within the Engineering Team of an aerospace organization, which is responsible for managing project specifications, coordinating design changes, and ensuring compliance across technical disciplines. Over time, the team experienced a steady increase in both the number and duration of meetings, reducing the time available for concentrated engineering work. Internal feedback showed that many discussions could have been managed through alternative communication methods.

The objective of this project is to reduce the overall time spent on meetings within the engineering team while maintaining effective communication and cross-department collaboration. By streamlining meeting practices and introducing alternative communication methods, the project seeks to improve productivity and ensure that more time is dedicated to focused project work. In the long term, this approach is expected to enhance efficiency, support timely project completion, and contribute to employee satisfaction.

LITERATURE REVIEW

Agile methodologies emphasize flexibility, collaboration, and efficiency in project management. The Agile Manifesto outlines twelve principles that promote adaptability, frequent value delivery, and sustainable development [1]. Agile frameworks such as Scrum further promote short, focused daily stand-up meetings to enhance coordination, communication, and accountability across teams.

Despite the advantages of Agile communication practices, many organizations continue to face challenges in maintaining efficient and purposeful meetings. Meeting effectiveness strongly influences productivity. Research links poorly structured or excessive meetings to fatigue and lower engagement, while clear agendas and time limits improve outcomes [2].

Alternative communication channels, such as email, reduce unnecessary meetings while maintaining effective information exchange. Effective email communication relies on clarity, brevity, and professionalism [3]. In addition to email, digital project management tools such as Microsoft Teams and Jira support asynchronous coordination by centralizing task tracking, documentation, and team communication. These tools reduce reliance on meetings by providing

continuous visibility into project progress and decision-making processes.

Integrating Agile principles with structured meeting practices and digital tools provides a framework for reducing meeting overload while maintaining organizational effectiveness [1-3].

METHODOLOGY

This project utilized an applied research approach structured around three main phases: Initial Data Collection, Intervention, and Post-Implementation Evaluation. The objective was to improve meeting efficiency by identifying patterns of inefficiency, implementing targeted improvements, and measuring their impact. The methodology was guided by Agile principles, emphasizing iterative improvement, structured communication, and continuous feedback to enhance team collaboration and adaptability.

Initial Data Collection

Baseline data was collected to establish a clear understanding of the team's meeting practices and communication patterns. A baseline survey was administered to employees using Google Forms to gather both quantitative and qualitative information. The survey included questions regarding meeting frequency, duration, perceived effectiveness, agenda clarity, and relevance of participants.

These metrics included:

- Average hours spent in meetings per week.
- Perceived clarity and relevance of meeting objectives.
- Frequency and productivity of meetings.
- Availability of alternative communication methods, such as email or project management tools.

The responses were collected anonymously to ensure candid feedback. Quantitative data were analyzed using descriptive statistics to determine averages and frequency distributions, while open-ended comments were reviewed manually to identify recurring themes related to meeting structure, clarity, and relevance. This data helped identify inefficiencies and improvement priorities. Consistent with Agile practices, the findings from this phase served as a sprint retrospective, allowing the team to identify bottlenecks and define actionable improvements for the next cycle.

Intervention

Based on baseline results, targeted interventions were implemented to enhance meeting efficiency. These included the introduction of structured agendas, reduction of meeting frequency, and greater reliance on project management tools such as Jira for asynchronous communication. These actions were directly aligned with Agile principles of transparency, collaboration, and iterative adjustment.

To ensure successful implementation, the engineering team received brief training on meeting planning, agenda formulation, and effective use of alternative communication tools. Training emphasized the Agile concept of daily stand-ups and short, purpose-driven interactions designed to maintain focus and accountability.

During the intervention period, managers reinforced accountability by requiring every meeting invitation to include a defined purpose, expected outcomes, and a list of relevant participants. Follow-up notes and decisions were documented in Jira or Teams to reduce the need for recurring check-in meetings. This approach reflected Agile's emphasis on using collaborative tools and clear documentation to support transparency and minimize unnecessary communication overhead.

Post-Implementation Evaluation

After four to six weeks of implementation, a follow-up survey identical in structure to the baseline survey was administered. The purpose was to measure the effects of the changes on team behavior and perceptions. The evaluation focused on several key indicators:

- Change in meeting frequency and hours spent in meetings.

- Increase in use of alternative communication channels such as email or messaging platforms.
- Perceived changes in productivity and time management.

The data collected from the post-implementation survey was analyzed using the same statistical methods to ensure comparability. Quantitative results were evaluated using averages and percentage changes, while qualitative comments were reviewed to identify recurring themes of improvement or remaining challenges.

In keeping with Agile's iterative evaluation model, results were discussed in follow-up sessions resembling sprint reviews, allowing the team to reflect on outcomes, share lessons learned, and plan additional refinements to communication practices.

Results from the post-implementation survey were compared directly with baseline results to quantify improvements. Preliminary findings indicated reductions in average meeting time and increases in perceived meeting clarity and productivity, suggesting that the applied techniques —rooted in Agile principles—had a positive effect on overall team efficiency.

FINDINGS

This section presents the results obtained from both the baseline (pre-intervention) and post-implementation surveys conducted among members of the Engineering Team. The findings reflect changes in meeting frequency, duration, perceived effectiveness, and employee preferences for alternative communication methods following the introduction of structured meeting practices and email-based coordination tools.

Meeting Frequency and Duration

The baseline survey revealed that most employees attended between six and ten meetings per week, with a smaller proportion attending more than ten. This pattern reflected a high meeting load that often interfered with focused work.

After the intervention, the number of meetings per employee decreased slightly, with several respondents reporting reduced meeting hours due to better scheduling practices and clearer meeting purposes.

Employees reported that the introduction of clear agendas helped reduce unnecessary participation, as only essential contributors were invited to specific discussions. Additionally, project updates were increasingly managed through asynchronous tools, allowing engineers to focus more time on design and analysis tasks rather than prolonged meeting attendance. This shift suggests improved time management practices and stronger alignment with Agile principles emphasizing short, outcome-focused interactions.

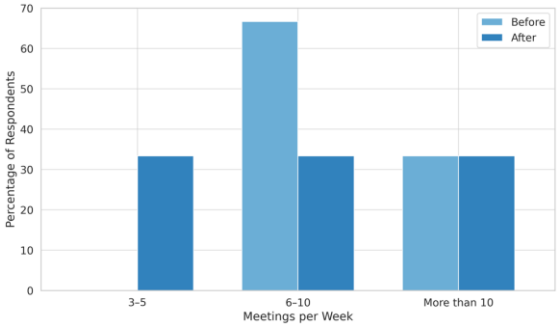

Figure 1
Average weekly meetings

Perceptions of Effectiveness

Perceptions of meeting productivity showed moderate improvement following the implementation of structured agendas and participant relevance guidelines. The average productivity rating increased from 2.9 to 3.1 on a five-point scale. Agenda clarity and participant relevance—two critical aspects of meeting design—were rated higher in the post-survey, increasing from 3.3 to 3.7 and 3.2 to 3.5, respectively. Respondents noted that meetings became more concise and focused when a predefined agenda and clear objectives were shared in advance. This aligns with Agile principles that emphasize time-boxed, purpose-driven interactions, allowing teams to maximize collaboration while minimizing unnecessary discussion.

Several respondents noted that the meetings became more goal-oriented, with discussions

focused on actionable topics rather than broad updates. This change not only enhanced perceived productivity but also improved meeting morale, as participants felt their contributions were more directly linked to project outcomes. Furthermore, consistent use of predefined agendas promotes accountability, enabling teams to maintain focus and ensure deliverables were clearly assigned.

Participants also reported greater confidence in meeting outcomes, noting that follow-up actions were clearer and accountability improved.

Table 1
Meeting Effectiveness Ratings

Metric	Baseline Avg	Post-Implementation Avg
Agenda Clarity	3.3	4.3
Participant Relevance	4.3	4.3
Productivity	3.7	3.7

Preference for Alternative Communication Channels

A significant shift was observed in employees' preferred methods of communication. In the baseline survey, 55% of respondents expressed a preference for alternatives to traditional meetings, such as email updates or project management tools. After the intervention, this figure rose to 65%, indicating a growing comfort with asynchronous communication for tasks that do not require real-time discussion.

Employees increasingly relied on Microsoft Teams and Jira to share progress, track issues, and document project milestones. This transition minimized redundant discussions and improved transparency by centralizing information in accessible platforms. Moreover, the observed comfort with asynchronous tools aligns with Agile communication principles that prioritize clarity and flexibility over formality. These findings suggest that reinforcing the use of digital coordination platforms can further reduce meeting dependency and promote sustained communication efficiency.

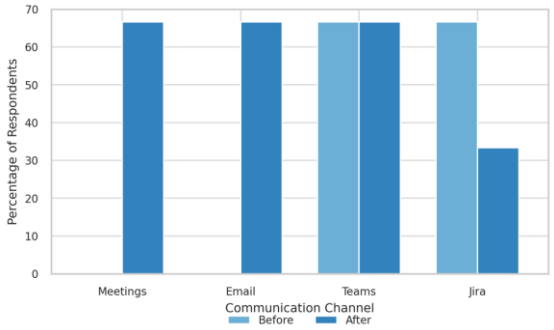

Figure 2
Communication Preferences

Additionally, employees reported higher satisfaction with the use of email for documentation, progress tracking, and decision-making, reflecting an overall reduction in meeting dependency.

RECOMMENDATIONS

Based on the findings from the intervention and post-implementation surveys, several recommendations are proposed to sustain and further improve meeting efficiency within the engineering team. These suggestions emphasize the continued optimization of meeting structures, the integration of alternative communication tools, and the adoption of Agile-inspired practices.

Optimize Meeting Structures

To enhance productivity, meetings should remain short, focused, and guided by a clear agenda distributed in advance. Each session should outline specific objectives, discussion topics, and expected outcomes to ensure efficient use of participants' time. Designing a facilitator can help maintain direction and prevent deviations from the agenda. Attendance should also be limited to individuals whose roles are essential to the meeting's purpose, minimizing unnecessary overlap and preserving time for focused work. These practices align with research indicating that structured meetings contribute to higher employee well-being and engagement [2].

Integrate Alternative Tools

Routine status update meetings can be replaced with project management platforms such as Jira or Teams, enabling asynchronous communication and transparent progress tracking. This approach allows team members to access updates and documentation without requiring synchronous discussions, reducing the overall meeting load. Additionally, email should be used for non-urgent communication, document sharing, and task coordination. As noted by the University of North Carolina's Writing Center, clear and concise email communication ensures that information is effectively shared across diverse audiences without interrupting workflow [3]. Establishing guidelines for appropriate tool use can further enhance efficiency and reduce redundancy across communication channels.

Encouraged Agile Practices

Routine incorporation of Agile principles can further support a culture of efficiency and adaptability within the engineering team. Short daily stand-up meetings may be introduced where appropriate, allowing team members to quickly review progress, identify obstacles, and align priorities without lengthy discussions. Continuous feedback loops—such as periodic retrospectives or post-meeting evaluations—should be encouraged to assess communication effectiveness and identify areas for improvement. These practices reflect the Agile principle of continuous reflection and adaptation, promoting sustainable productivity and ongoing team development [1].

CONCLUSION

The findings of this project highlight the tangible benefits of rethinking meeting structures and communication strategies within an aerospace engineering environment. The initial survey results revealed a significant meeting overload among team members, with employees attending numerous weekly sessions that often-lacked focus and clear objectives. This pattern not only interfered with concentrated work but also contributed to decreased engagement and productivity. The evaluation also indicated that meeting effectiveness was only moderate, suggesting an opportunity for improvement through more structured approaches.

A strong preference for alternative communication methods, such as email and project management tools, emerged as a key insight from the data. These asynchronous platforms were found to enhance flexibility and information accessibility while reducing dependency on traditional, time-consuming meetings. The proposed techniques—focused meetings with clear agendas, role-specific attendance, and the use of digital coordination tools—aim to improve communication clarity, reduce meeting frequency, and align team collaboration with Agile principles. Collectively, these adjustments are expected to support more efficient workflows and greater employee satisfaction.

Following the implementation of the recommended techniques, a follow-up survey confirmed measurable improvements in meeting effectiveness and communication efficiency. The findings demonstrated that structured agendas, clearer meeting purposes, and the use of project management tools led to a noticeable reduction in meeting overload. Feedback gathered provided insights into refining communication practices to align team needs and project objectives. Overall, the engineering team achieved a more sustainable balance between collaboration, focused work, and productivity—key elements of long-term organizational success.

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